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OVERVIEW

Introduction

India possesses a land area 42 percent the size of the contiguous 48 states of the United States and a population of about 820 million. It is fairly well-endowed with arable land and mineral resources, including iron ore, coal, oil and gas.

Despite a low per capita gross national product (GNP), India has made progress in many areas in the past four decades. Domestic savings and investment have increased from 10 percent of GNP in 1950 to about 22 and 23 percent for savings and investment, respectively, at present. Industry's share of GNP has risen from 16 percent to almost 30 percent. Manufactures now account for 68 percent of exports. Literacy has increased from about 16 percent to over 36 percent. Life expectancy has increased from 32 years to 56 years.

The Economy

During the first three decades after India gained its independence in 1947, economic growth averaged only 3.5 percent, below the rate for most low-income countries and barely ahead of population growth. As a result, living standards for most Indians improved very slowly. Since the mid-1970s, growth has been somewhat more rapid, averaging 4.5 percent since 1974. Higher domestic savings and investment rates were the main factors behind the acceleration in growth.

India has a relatively closed economy. Indian industry is protected by high tariff barriers and import licensing restrictions. In recent years, the Indian Government has come to realize that foreign technology and investment can contribute to industrial modernization. Foreign involvement, however, is still relatively limited and lags far behind levels found in most other nations at similar stages of development. An indication of the economy's insularity is that during the global economic recession of the early 1980s, the Indian economy actually enjoyed higher than usual growth.

Since the spring of 1988, India has experienced a serious deterioration in its balance-of-payments position. As of January 1990, India's reserve position stood at about $4.0 billion, sufficient to cover only two months' of imports. Increased imports and accelerated loan repayments have been the main factors contributing to the drawdown of India's foreign reserves. Stagnation in India's oil production, as the Bombay High field production passes its peak, has resulted in increased imports of petroleum further straining India's foreign reserve position.

As its balance-of-payments situation deteriorated, the Indian Government has made efforts to reduce its chronic trade deficit, partially through reducing imports. Any attempt to further restrict imports, however, would likely target basic industrial needs and adversely impact on growth and industrial production. As a source of capital, India has come to rely more heavily on high-interest commercial borrowing, with current obligations requiring higher than normal levels of repayments at least through 1991. India's external debt now stands at approximately $63 billion, with a debt service ratio of around 30 percent and rising. India's current account deficit stands at approximately 2 percent of GNP.

Population

India is home to one-sixth of the world's population, second only to China. While accounting for over 15 percent of the world population, it occupies only 2.4 percent of the global land area, resulting in a high population density. India's population is projected to exceed 1 billion by the year 2000. Widespread poverty, unemployment, and a low per capita income of only $320 (estimated at 1989-90) are severe problems.

The distribution of the Indian population and its income is uneven. Almost 70 percent of the country's population resides in over 576,000 villages and is dependent primarily on agriculture, which normally (with exceptions of drought and floods) accounts for about 38 percent of national income. Among India's states, Kerala has the highest density of population, followed by West Bengal. Agricultural productivity and income are highest in Punjab and Haryana (north India). The inequitable distribution of income is also evident in the fact that nearly 40 percent of the total population lives below the "official poverty line," defined as annual income/expenditure in the range of $85-$100. In sharp contrast, 10 percent, or about 80 million people in the modern business and services sectors, control over 40 percent of India's national income.

The Indian labor force, currently estimated at 330 million, includes a small segment of industrial workers comprising barely 10 percent of the total labor pool. The number of educated, skilled professionals, and engineers entering the work force is increasing.

Foreign Assistance

Over the years, India has benefitted greatly from bilateral and multilateral assistance. India has been the largest borrower from the World Bank and has received substantial aid from both the United States and the USSR. India is also soliciting greater investment from nonresident Indians (NRIs) through various incentive programs. As of the winter of 1990, NRI deposits totaled almost $10 billion.

The Indian Market

India's per capita GNP figure of $320 conceals the existence of a relatively prosperous portion of the population in the "organized" (modern) sector of the economy. This sector, comprising perhaps 80 million Indians, is largely clustered in urban areas and has sufficient income to purchase a wide variety of consumer goods.

Over the past few years, economic growth and liberalization have made India a more promising and receptive market for sophisticated capital goods and high-technology products. However, the Indian Government still places severe restrictions on, or bans outright, the import of consumer goods and a wide variety of industrial products.

Industry

India has developed a diverse industrial sector, which ranks 12th in the world in terms of manufacturing output. Its heavy industries are dominated by state-owned

enterprises directed by the central government on the basis of five year plans. While long-term economic growth has been about 4.5 percent, industrial growth in recent years has approached 10 percent. Historically, India's industrial policy has emphasized import substitution, with special emphasis on heavy industry, particularly steel and steel-based capital goods and machinery. The emphasis in recent years has been on the development of power, oil and gas, electronics, and telecommunications.

While India's progress in the development of its industrial sector now enables it to produce a wide array of goods, including some sophisticated high-technology items, its industrial strategy has had mixed results. Its greatest success has been in creating a diverse, largely self-sufficient industrial base. However, India has had little success in developing its capacity to compete in export markets. India's pervasive system of administrative controls, in place of market mechanisms, has allowed large segments of Indian industry to develop in a highly protected environment. The distribution of industrial licenses in favor of small-scale manufacturers has undermined economies of scale in most industries, resulting in a high-cost industrial structure lacking the advantages of competition among the local manufacturers.

Additional constraints discouraging sustained growth of India's industry in the medium term include underutilization of capacity, continuing power shortages, outmoded and obsolete technology and machinery, low labor productivity, and inadequate demand.

In recent years, pressure for a reassessment of India's industrial strategy has been growing, particularly with respect to government controls. Greater importance is now attached to increasing production through higher capacity utilization and enhancing the role of the market in resource allocation. Indian Government policies have begun to provide greater access and foster greater efficiency and lower costs.

Agriculture

Agriculture accounts for about one-third of national income, down from one-half in 1960, and a third of exports. Indian agriculture varies from subsistence cultivation to the intensive, irrigated and mechanized three-crop agriculture widely practiced in the states of Punjab and Haryana. Seventy percent of India's labor force works in agriculture, a proportion that has declined only slightly in this century.

Monsoon performance, which alternates between years of plentiful and inadequate rainfall, is still the primary determinant of Indian agricultural production, though less so than formerly, due to advances in irrigation. Because industrial demand is so heavily dependent on purchasing power generated by harvests, monsoon performance can significantly affect GNP. The failure of the 1987 monsoon, for example, led to a 9 percent decline in agricultural production and reduced GNP growth to 2.8 percent.

Energy

One of the principal constraints on industrial growth in India has been the lack of reliable electric power. The gap between demand and supply [9 percent in Indian Fiscal Year (IFY) 1988/89] will continue to be a salient feature of the Indian

economy for the foreseeable future. Electricity demand continues to grow at a rate exceeding 10 percent annually, while the growth in production lags behind at about 9 percent. Major factors accounting for the shortfall are low capacity utilization of power plants, delays in the commissioning of new generating plants, and transmission and distribution losses of well over 20 percent.

The primary source of electric power in India is thermal, fueled by locally mined coal. Hydroelectric plants also provide a significant portion of India's power supply. India's nuclear power system currently provides only about 2.5 percent of its total energy output. In 1974, India exploded an underground nuclear device, but it claims that its nuclear program is to be used only for peaceful applications. India is not a signatory to the Nuclear Non-Proliferation Treaty.

Until recently, one of the most positive trends in India's energy sector had been the growth in domestic oil production, almost all of which had come from the development of the offshore Bombay High oil field. However, in the last three years, crude oil production has grown only marginally, while demand is currently expanding at an annual rate of approximately 7 percent. Prospects for expanded production from recent discoveries in other regions of the country remain uncertain. Currently, India produces approximately 60 percent of its domestic oil needs, or about 30 million metric tons annually.

Transportation

Transportation of freight and passengers in India is handled primarily by the railways. The government-owned Indian Railways is the second largest railway system in the world. On a network of 63,814 kms (40,722 miles), Indian Railways handled 303 million tons of freight and 3.5 billion originating passengers in IFY 1988-89. The Ministry of Railways has developed an ambitious modernization program for the next 15 years.

During the last two decades, domestic air traffic has registered an annual growth of 10 percent. Domestic air travel in India is monopolized by Indian Airlines and Vayudoot Airlines, both government-owned. To meet the anticipated continuation of high rates of growth of air traffic, Indian Airlines plans to acquire 31 new Airbus A-320 aircraft by 1992 and proposes acquisition of an additional 33 planes by 1995. Vayudoot provides air services to smaller cities not covered by Indian Airlines. It also has plans for sizeable expansion in the next few years, mainly in the 50-seater aircraft class.

A number of airlines provide service to India, with Air India being the national flag carrier on international routes. PAN AM is currently the only U.S. air carrier providing service to India. As a result of the geographical location of India and night curfews on flights imposed by many countries, virtually all international air traffic to and from India occurs late at night.

India has 11 major seaports, which handled 133.8 million tons of cargo in 1987. Indian shipping tonnage accounts for 1 percent of the total world fleet. Indian ships carry approximately 41 percent of the country's total seaborne trade. Inland river navigation is mainly used to haul freight in the eastern and southwestern regions of India.

While Indian ports are able to meet the basic demands of domestic and intracoastal traffic, severe shortcomings are apparent in the ability of these facilities to service international trade. Although improvements have been made in recent years, pervasive problems continue to plague India's ports. India's port authorities must deal with numerous labor unions determined to protect a membership benefitting from excess manpower and generous, politically established wage levels. Docking and loading delays are often encountered as a result of generally antiquated and overburdened harbor facilities.

The shortcomings of India's ports are compounded by generally inefficient transport networks connecting them to the country's interior. Constraints faced in expanding the rail network have led to an increased reliance on India's roads for the transport of both passengers and freight. This in turn has overburdened India's already inadequate roadways.

Government

Since becoming independent in 1947, India has maintained a parliamentary, democratic form of government. India's executive leadership is held by the Prime Minister who is designated by legislators of the political party, or coalition of parties, commanding a parliamentary majority. India's bicameral parliament consists of the Rajya Sabha (Council of States) and the Lok Sabha (House of People).

India has 25 states and 6 union territories. The legislatures of the states and union territories elect 232 members to the Rajya Sabha, and the president appoints another 12. The elected members of the Rajya Sabha serve six-year terms, with one-third up for election every two years. The Lok Sabha consists of 544 members; 542 are directly elected to five-year terms. The other two are appointed.

Although the country has experienced difficult periods of famine, war, and political violence, its political institutions have remained intact.

FOREIGN TRADE OUTLOOK

Trade is important for India, but given the size of the overall economy, it represents only a small portion of aggregate resource flows. Imports and exports equal only about 8 and 6 percent of GNP, respectively. India's major imports are petroleum and petroleum products, machinery and transport equipment, chemicals, fertilizers, rough gems, edible oils, iron and steel, and nonferrous metals (see Tables 1 & 2 and Charts 1-3). Consumer imports are virtually nonexistent. Principal exports are gems and jewelry, textiles, garments, leather goods, handicrafts, cashew nuts, tea, and seafood.

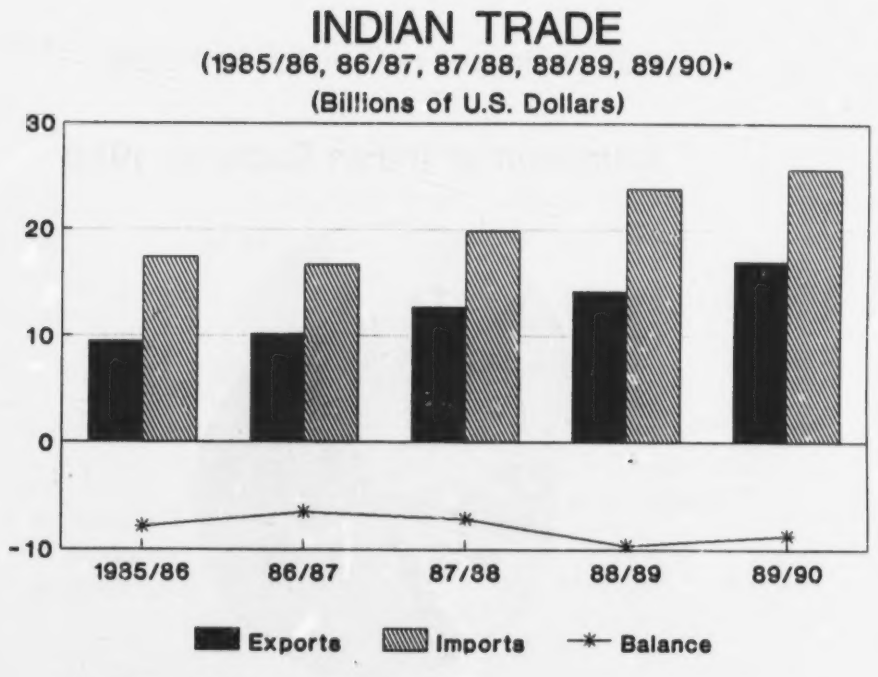
Over the past five years, the value of India's overall trade has increased from $25 to $42 billion. Exports have constituted approximately 40 percent of total trade while imports have constituted 60 percent. India has been running overall annual trade deficits of between $5 and $7 billion.

The United States is India's largest trading partner, with Indo-U.S. trade at about $4 billion in each of the five years prior to 1988 (see Tables 3-5 & Charts 4-6). In 1988 bilateral trade increased by 35 percent to $5.7 billion, with U.S. exports up 70 percent and imports rising 16 percent.

While these figures represent, in part, a rise in demand for grain and chemical fertilizers due to an extended drought, Indian imports of manufactured goods contributed a substantial component of the sharp rise in imports. In 1988 the United States accepted 21 percent of India's exports and contributed 11 percent of its imports. India has been running trade surpluses with the United States since 1983.

Present indications are that bilateral trade will continue to grow as India proceeds with efforts to modernize and expand its industrial and technological capabilities with the aid of imported capital goods, and continues to encourage indigenous producers to expand their export markets.

Chart 1



*Indian Fiscal Year: April 1 - March 31
Source: Government of India

Table 1

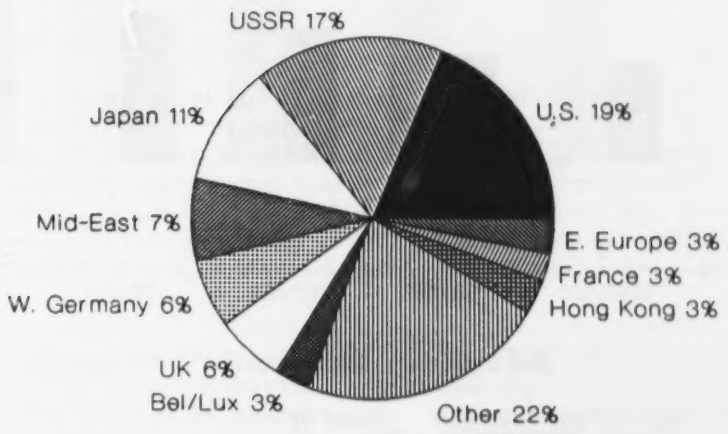
PRINCIPAL INDIAN EXPORTS
Indian Fiscal Years 1984-85,85-86,86-87,87-88*
(in millions of U.S. dollars)

Commodity	1984-85	1985-86	1986-87	1987-88
Gems & Jewelry	1,041	1,228	1,618	2,010
Textiles & Garments	1,710	1,432	1,485	2,376
Leather & Leather Goods	568	629	616	883
Chemicals	406	406	372	633
Tea	645	512	430	455
Iron Ore	386	473	424	417
Seafood	321	334	375	403
Spices	174	227	210	237
Cashews	151	184	251	235
Coffee	177	217	238	202

*Indian Fiscal Year: April 1 - March 31
Source: Government of India

Chart 2

Destination of Indian Exports: 1988



Source: IMF

Table 2

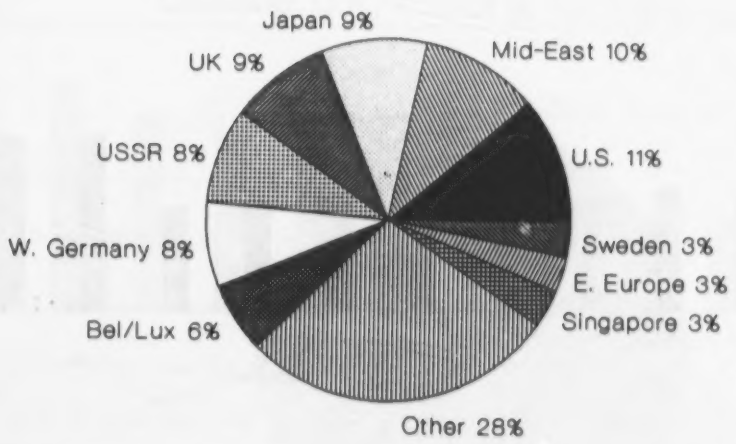
PRINCIPAL INDIAN IMPORTS
Indian Fiscal Years 1984-85,85-86,86-87,87-88*
(in millions of U.S. dollars)

Commodity	1984-85	1985-86	1986-87	1987-88
Machinery & Transportation Equip..	2,546	3,337	4,120	3,649
Petroleum & Petroleum Products....	4,552	4,078	2,166	3,140
Gems.....	868	899	1,170	1,534
Iron & Steel.....	792	1,140	1,133	979
Chemicals.....	721	890	810	808
Edible Oils.....	774	601	477	707
Nonferrous Metals.....	347	443	324	443
Fertilizers.....	1,132	1,175	603	374
Foodgrains.....	203	90	37	25

*Indian Fiscal Year: April 1 - March 31
Source: Government of India

Chart 3

Sources of Indian Imports: 1988



Source: IMF

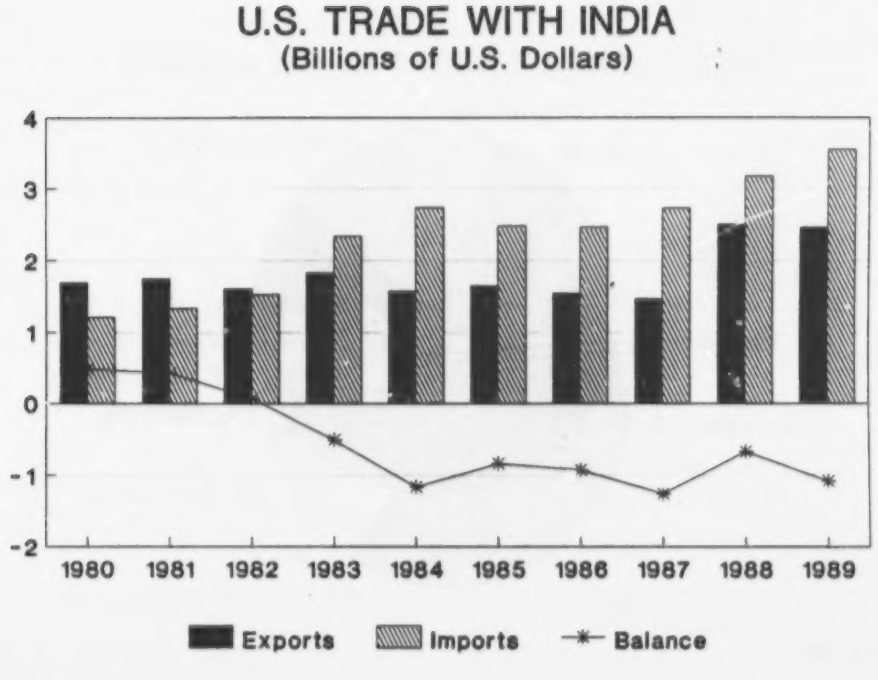
Table 3

U.S.-INDIA TRADE: 1983-89
(in millions of U.S. dollars)

Year	U.S. Imports (C.I.F.)	U.S. Exports (F.A.S.)	Total Trade	Trade Balance
1983	2,334	1,827	4,161	-507
1984	2,737	1,565	4,302	-1,172
1985	2,478	1,640	4,118	-838
1986	2,465	1,529	3,994	-936
1987	2,725	1,460	4,185	-1,265
1988	3,167	2,484	5,651	-683
1989	3,551	2,463	6,014	-1,088

Source: U.S. Department of Commerce

Chart 4



Source: U.S. Department of Commerce

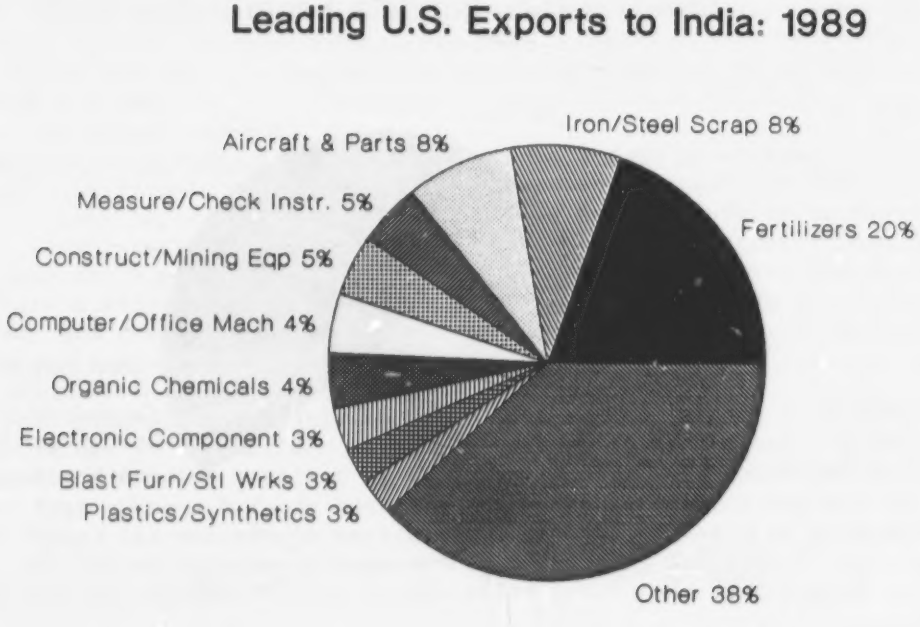
Table 4

LEADING U.S. EXPORTS TO INDIA: 1987-89
(F.A.S. value in millions of U.S. dollars)

SIC Code	Commodity	1987	1988	1989
287	Agricultural Chemicals (Fertilizers)...	37	170	484
910	Iron/Steel Scrap & Waste.....	103	144	200
372	Aircraft & Parts.....	128	380	197
382	Instruments for measuring,testing, etc.	101	96	116
353	Construction, Mining Machinery.....	116	114	112
357	Office, Computing, Accounting Machinery	96	99	109
286	Industrial Organic Chemicals.....	59	88	101
367	Electronic Components, Accessories.....	40	54	79
331	Blast Furnace, Stl Wrks, Rolling Mills.	14	42	66
282	Plastics, Synthetic Resins & Rubber....	39	52	65
356	General Industrial Machinery & Equip...	48	49	63
391	Jewelry of Precious Metal.....	21	35	51
384	Surgical, Medical, Dental Instruments..	29	39	50
354	Metalworking Machinery & Equipment.....	29	29	48
351	Engines, Turbines & Parts.....	37	72	44
355	Specialized Industrial Machinery.....	32	37	34

Source: U.S. Department of Commerce

Chart 5



Source: U.S. Department of Commerce

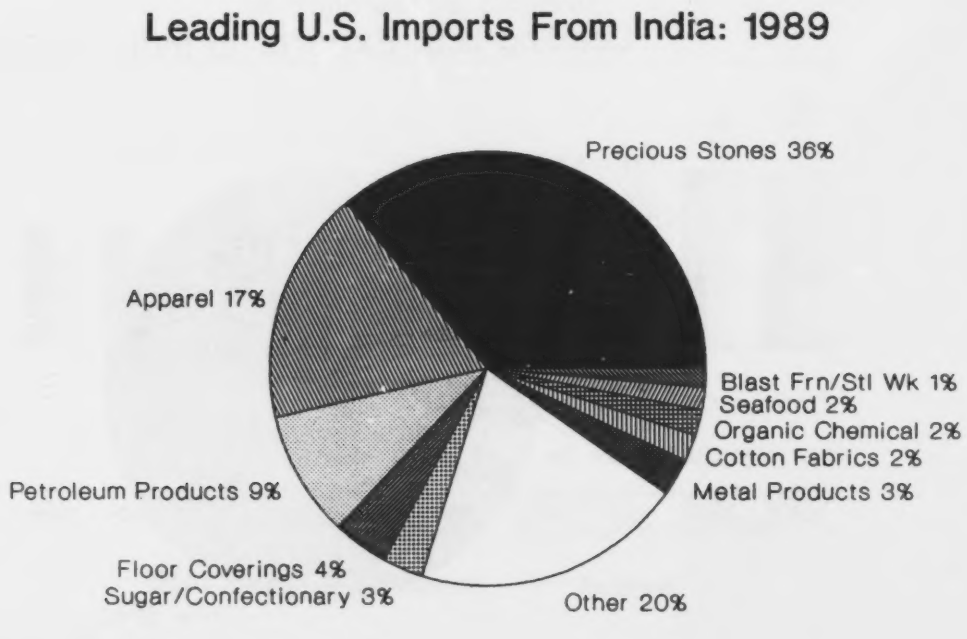
Table 5

LEADING U.S. IMPORTS FROM INDIA: 1987-89
(C.I.F. value in millions of U.S. dollars)

SIC Code	Commodity	1987	1988	1989
391	Jewelry, silverware (mainly cut diamonds under 1 carat)..	741	1,057	1,202
233	Women's Clothing.....	324	357	435
291	Refined Petroleum Products (Naphthas)	249	205	310
227	Floor Coverings.....	123	128	138
206	Sugar & Confectionary Products.....	158	71	100
232	Men's Clothing.....	97	108	94
349	Fabricated Metal Products.....	55	68	91
221	Cotton Broad Woven Fabrics.....	81	81	66
286	Industrial Organic Chemicals.....	37	48	62
091	Seafood (Primarily Shrimp).....	55	51	56
331	Blast Furnace, Stl Wrks, Rolling Mills	23	48	47
239	Fabricated Textile Articles, nspf....	35	45	46
238	Wearing Apparel & Accessories, nspf..	12	26	45
013	Field Crops, except cash grains.....	69	68	37
314	Footwear, except rubber.....	30	30	33
317	Handbags, Personal Leather Goods.....	16	24	32

Source: U.S. Department of Commerce

Chart 6



Source: U.S. Department of Commerce

Best Prospects for U.S. Exports

Computers and Peripherals.- The Indian computer industry has made considerable progress in the last decade. Rapid growth, exceeding annual rates of 40 percent in recent years, has been nurtured by government policies designed to encourage development of a domestic computer industry. Substantial government investment has been directed towards increasing the utilization of computers in government and industry. Major computer equipment buyers include Indian Government agencies; large corporations in the public and private sectors; educational institutions; and the network of R&D laboratories, including defense and research organizations.

The Indian Department of Electronics (DOE) regulates the import of computers and in the past had eased import restrictions by reducing tariffs on critical computer equipment and peripherals. However, as the domestic industry has expanded its production capabilities, the Indian Government has begun to reimpose import licensing barriers and higher tariffs.

While the market for personal computers is closed to imports, most locally manufactured PCs contain a significant percentage of imported components, including memory chips, PCBs, and peripherals. More sophisticated components and systems continue to be imported as well. In recent years, annual U.S. exports of such equipment to India has totaled around $100 million.

In addition to direct sales of more sophisticated computer products, a number of U.S. firms have become active in the Indian market through joint ventures and technical collaborations with Indian firms.

Products with high sales potential include sophisticated computer systems; digital communications interface equipment; storage units (direct access) such as magnetic disk and drums, magnetic card, and bulk core memory; auxiliary serial access storage units; input/output devices; control equipment (input/output) including analog to digital converters and vice versa; peripherals and add-ons for PC/XT's and data acquisition systems.

Food Processing and Packaging Equipment.- India's food processing industry has been undergoing significant changes with growth prospects considered very promising. Changing lifestyles and increasing urbanization have stimulated domestic demand for processed food products, and the Government of India has targeted food processing as a major area for export promotion. This growth in the domestic and foreign sectors will require a major modernization and expansion of processing and packaging facilities, and should provide numerous opportunities for U.S. food processing and packaging equipment manufacturers.

India's food processing industry is built on a strong, export-oriented agricultural base. It is one of the world's largest producers of fruits and vegetables, and is traditionally a leading exporter of tea, cashew nuts, and seafood. The government has noted that processed foods generate considerable value-added export revenues and hopes to expand its success in agricultural exports to the food processing sector. In 1988, the Indian Government established a Ministry for Food Processing Industries and specifically charged it with accelerating growth and development in the food

processing industries. The Indian Government is considering the deregulation of certain aspects of the food processing industry, notably licensing procedures and imports of desired foreign technology and machinery.

In spite of the trend towards liberalization noted above, direct export of food processing equipment to India remains difficult due to import substitution and self-reliance policies and to shortage of foreign exchange. India generally allows imports of machinery only when similar machinery is not available domestically. U.S. producers can improve their chances of success by considering various collaborative options such as the granting of franchises to Indian companies; entering joint ventures with Indian manufacturers to produce equipment under license; entering barter, buyback, and deferred payment agreements; and actively participating in trade fairs.

Best sales prospects for U.S.-origin equipment include canning, bottling, cartoning, coding, and marking machinery and equipment; dairy and milk products machinery and equipment (excluding packaging); fruit and vegetable preparation machinery (excluding packaging); flour and grain mill machinery (excluding packaging); meat processing equipment; fish and shellfish processing machinery (skinning, gutting, shelling, portioning, etc.); pasta and bread products manufacturing machinery; microwaves; and equipment for fast food franchise outlets.

Chemical and Petrochemical Plant Machinery and Equipment.- Over the past few years, the Indian Government has accorded a high priority to the chemical and petrochemical industries. Demand for the products of these industries has far outstripped domestic production capacity. The cost of domestic production in these industries has remained relatively high due to the high cost of inputs, heavy duties on end-products, lack of economies of scale, and use of obsolete technology.

The Indian chemical and petrochemical industries, faced with rapid technological changes and the emergence of new products, have typically responded by retrofitting existing plants. New and larger plants for production of essential products are now in the works. Recently, Indian businesspeople have submitted applications to the government to build 2 million tons of new ethylene production capacity at a cost of approximately $4 billion. Nearly $5 billion more will be needed to convert the ethylene into plastics, fibers, and detergents. Many of the proposed projects are joint sector ventures between state or federal governments and private firms. Investment by the private sector is expected to reach $4.4 billion in 1990.

Current government policy permits the import of technologies as well as plant, equipment, and instrumentation in areas such as refineries, petrochemicals, and fertilizer projects. Equipment manufacturers are allowed to import systems, components, devices, and materials not locally available. Recent policy initiatives by the Indian Government to promote the growth of the industry include allowing manufacturers increased flexibility to respond to market demand, increasing the size of production units for economies of scale, and permitting the free sale of polyester chips.

The demand for chemical and petrochemical plant, machinery, and equipment is closely connected with the user industries such as fertilizers, petroleum refining, gas and

petrochemicals, pollution control, heavy organic chemicals, and pharmaceuticals. In the area of fertilizers, India continues to import approximately 30 percent of the equipment required for fertilizer plants. Over the past few years, work has begun on five new fertilizer plants, with plans for two additional ones in progress.

Increased oil and gas production in India has opened up further possibilities for the development of the industry. A new $800 million refinery and petrochemicals project in Mangalore will process 3 million tons of crude oil annually and will be equipped with the latest hydrocracker technology to maximize production of middle distillates such as oil and kerosene. Several other projects to produce polyester staple fiber, nylon filament, polypropylene, caprolactum, and benzene are on the drawing board.

In addition to software and consultancy services, there exists strong demand for the following equipment: pumps with low NPSH, slurry, canned and precision dosing pumps, reciprocating and lobe centrifugal compressors, carbon and stainless steel tubes for heat exchangers, gas turbines, and fertilizer plant equipment.

Electronics Industry Production and Test (EIPT) Equipment.- The Indian market currently presents significant opportunities for sales of electronics equipment. Over the last five years, the Indian Department of Electronics has attempted to rationalize electronics policy by removing restrictions on production capacity, delicensing a wide range of components, and facilitating the importation of technology by encouraging joint ventures. In order to encourage production of quality products that meet international standards, customs and excise duties for a wide range of components have been reduced.

The government's plan for electronics calls for domestic production of components worth $1 billion per year in 1990, illustrating the increased emphasis being placed on the development of the local components industry. Substantial investments are planned to establish manufacturing facilities for semiconductors, hybrid circuits and passive components. In addition, the production of telecommunications equipment is a high priority with large investments being planned to augment existing capabilities.

There are several avenues for sales of advanced EIPT equipment. A wide range of products will be required by Doordarshan, the government television network, for testing and maintaining its new network of 200 transmitting stations. In addition, expanded manufacture of television sets will require extensive use of production, testing, and measuring instruments. A planned expansion of India's satellite communication system will create demand for sophisticated EIPT equipment. Computers now play an important role in Indian industrial and academic sectors. India produces more than 25,000 personal and 1,000 mini- and mid-sized computers per year. To expand its output the industry will require more sophisticated production and test equipment, particularly for testing printer circuit boards. The peripheral manufacturing sector is also emerging as a significant buyer of EIPT equipment. Indian industry sources estimate a 22 percent growth rate in imports for this sector through 1990.

Best sales prospects in this category include electron-beam evaporation systems and automatic vacuum coaters, laser trimmers, stereozoom microscopes, wafer scribers, diffusion furnaces, ion implanters, component tapping machines, wave soldering

equipment, proximity mask aligners, VLSI testers, multifunction test and measuring systems for component testing, microwave test equipment (200 megacycles and above), signal general equipment (RF and microwave), frequency measuring equipment, standards and calibration equipment for test measuring equipment, field strength and intensity measuring equipment, impedance measuring bridges, X/Y plotters (recorders), linear IC testers, spectrum analyzers, PCB testers, and high frequency oscilloscopes (above 200 MHZ).

Oil and Gas Field Machinery.- The Government of India has undertaken ambitious programs in oil and gas field exploration, development, and refining in its attempts to meet a greater portion of the country's energy needs. While India's more recent discoveries have been small and primarily gas rather than oil, exploration continues and promising fields are being developed. India's Planning Commission estimates the country's total hydrocarbon reserves at 17 billion metric tons, of which 5 billion are thought to be exploitable. Current production has stagnated at 30 million metric tons annually, while domestic consumption is increasing at better than 7 percent per year. India now imports more than one-third of its petroleum needs. This figure will rise to one half by the year 2000 if present trends continue. The Indian Government has begun to liberalize the petroleum sector and open it up to foreign participation in hopes of reversing this trend.

The principal buyers of oil and gas field equipment and services in India are three state-owned companies, the Oil and Natural Gas Commission (ONGC), Oil India Ltd (OIL), and the Gas Authority of India (GAIL), all of which are engaged in offshore/onshore exploration and development in India. In addition to these firms, the Government of India, since 1986, has invited foreign oil companies to explore for oil on a production sharing basis. Albion International Resources, Amoco, Chevron, Texaco, Shell, and British Oil are among those currently involved in oil exploration activities in India. Engineers India Ltd (EIL), an Indian consulting firm, makes decisions on equipment and services needed by its customers operating the public sector refineries and petrochemical complexes. Other buyers of this type of equipment include foreign contractors who have leased rigs/drill ships to ONGC and OIL.

Total Indian expenditures for oil and gas equipment and services were $2.7 billion in 1987. This figure is expected to rise to $2.9 billion in 1990 as India attempts to increase exploration and production to slow its growing reliance on foreign oil. The U.S. share of the market in 1987 was $30 million. This figure is also expected to rise. The World Bank has approved financing of $295 million for the development of several onshore and offshore gas deposits. In addition, the Government of India has recently begun to encourage Indian private sector investment in the manufacture of oil field equipment as well as actual drilling by domestic companies with support from foreign firms. Consequently, domestic industry is expected to make a significant contribution through joint venture and licensing agreements with foreign suppliers of oil and gas field equipment. This should increase opportunities for U.S equipment manufacturers interested in foreign investment, technology transfers, and licensing.

U.S. oil and gas field equipment and services as well as refining equipment and technology that offer the best potential for sales in India include geophysical and geological exploration equipment, seismic units, data acquisition units, data processing units, mud logging equipment, well logging equipment, vibrators, wireline

equipment, winches, offshore rigs (jack-ups, semisubmersibles, drill ships), deep level rigs (onshore/offshore 18,000-27,000 feet), drill pipes, drill collars, blow out preventors, rotary tables, swivels, mud pumps, draw works and accessories, fishing and cutting tools, down hole tools, cable tool drilling machinery, cementing equipment, well heads, christmas tree assemblies, choke kill manifold, surface pumping equipment, packers, subsurface pumps, oil and gas separation equipment, bits (5.5 inches through 26 inches), oil well cement and additives, alignment equipment, trenchers, tensioning equipment, hole openers, centralizers and scratchers, casing pipes (new and seamless), casing mud line suspension systems, mud testing equipment, bettis protectors, wipers and kelly cup protectors, liner hangers, production logging units, reamers, stabilizers, product tubing (different sizes and grades), laying submarine pipeline and risers, pipe hobbing machine, cathodic production systems, hydrogen sulphide control systems, gas detection systems, monitory systems for cathodic protection, workover rigs and derricks and truck-mounted derrick assemblies.

Services required include chartering of jack-up drill ships, semisubmersible rigs, helicopters, supply vessels, geophysical/seismic surveys, soil investigation services, current measurement surveys, directional drilling services, electrologging and perforation services, mud logging services, acid simulation services, production testing services, offshore rig operations and maintenance, diving and underwater services, firefighting services, engineering consultancy services, platform certification services, and subsea pipe laying services.

Alternate Energy Equipment, Services, and Engineering.- Existing market conditions in India offer opportunities for a broad range of renewable energy equipment. Beginning in 1980, with the development of simple wind pumps and low-temperature solar thermal devices, the Indian renewable energy industry has seen 10 years of steady growth. The Indian Planning Commission has stated that the Eighth Five-Year Plan (1990-95) should address the energy needs of rural communities.

A major constraint to the large-scale utilization of renewable energy systems is their high initial capital cost. In the interest of encouraging growth in the domestic alternative energy industry, the government offers numerous incentives in the way of tax relief, excise and import duty concessions, waivers, delicensing of renewable energy industries, and soft financial packages. On the demand side, the government promotes the use of nonconventional energy generation systems by subsidizing end-user purchases. Domestic demand for low-temperature solar thermal applications is met entirely by local manufacturers with indigenous technologies. However, export opportunities exist for selective coatings, surface temperature controls, sensors, gate valves, specialized collectors, differential thermostat controls, some sealing compounds, insulation, and glass.

The last few years have seen significant growth in wind energy applications. Five wind farms with a capacity of 3.3 MW have been commissioned by the Indian Government at various locations in India. Total investment is estimated at $5.3 million. A large number of private firms, in cooperation with government undertakings and state electricity boards, have also set up wind farms.

Biogas technology is gaining increasing recognition as an alternate and efficient source of fuel in rural areas. Opportunities exist for technology transfer to

harness biogas from distillery waste and solid waste. A demonstration project for extraction and utilization of biogas from sanitary landfills has been undertaken in New Delhi. Viable technology should find ready acceptance given the large volume of municipal waste generated in Indian cities.

The tremendous potential for small-scale hydroelectric generation in India, estimated at over 5,000 MW, has until recently been neglected. New efforts by the government to promote hydroelectric power include 89 projects in various stages of development with a capacity of 172 MW and 72 projects under consideration with a capacity of 167 MW. Until now indigenous industry has produced sufficient capacity to service the entire mini-hydroelectric market. The government is currently evaluating technologies not available in India for power generation from very low heads. In addition there are few domestic manufacturers of small hydro turbines.

Best sales prospects for this sector include solar heat recovery systems and solar thermal power plants, refrigeration systems-absorption chillers, wind electric generators and micro-hydro power generators with very low heads, solar photovoltaic systems (cells, modules, panels and amorphous silicon technology), large biogas plants and equipment, and urban waste techology.

Pumps and Valves.- The growth of the Indian pump industry has been remarkable during the past decade with most domestic requirements now being met by indigenous industries. However, as far as the requirements of the chemical and petrochemical industry are concerned, the country is not quite self-sufficient. Nor are the requirements of the Oil and Natural Gas Commission (ONGC) and Oil India Ltd. (OIL) for offshore and onshore drilling activities fully met by the Indian pump industry. The leading pump manufacturers in the country are planning major expansions utilizing foreign technology to produce the special pumps required by ONGC and OIL. These pumps, slurry and sulfuric pumps, required for high temperature, high pressure applications are not easily produced by the domestic industry due to the limited volume required and the nonavailability of raw materials and castings.

By and large, imports are confined to equipment requiring very special applications; the bulk of such imports satisfy the occasional requirements of new expansion projects and replacement markets. Although the pump industry has made rapid strides in recent years, there are many shortfalls in production that need to be bridged through selective imports and in-house research and development. The present trend in the industry is to look for foreign collaborations for manufacturing pumps for specialty applications, with the focus on industries such as nuclear power, petroleum refining, and space technology.

The wide range of secondary industries associated with the petroleum sector--petroleum exploration, production, transportation to pipeline, refining, petrochemical complexes, fertilizers, power generation, etc.--also require large quantities of industrial valves. Of the current annual demand for pumps and valves of $385 million, domestic production accounts for only $106 million. The remainder of the demand, not within the technological capabilities of domestic manufacturers, must be imported.

Among the leading Indian importers of pumps and valves, aside from the state oil producers, are the Gas Authority of India Ltd. (GAIL) and the Atomic Energy Commission (AEC). Among GAIL's primary requirements are gas actuator-operated industrial valves and ball valves. The AEC will continue to rely on foreign suppliers for a wide range of industrial valves, including christmas tree valves, gate valves, ball valves, shutdown valves with high pressure flanges and pipe fittings.

Additional opportunities for U.S. firms include sales of hydraulic fluid power pumps, oil well and oil field pumps, high vacuum pumps, lubricating oil pumps, other measuring and dispensing pumps, hydraulic valves, pneumatic valves, power transfer valves, and metal valves.

Process Controls.- India's market for all types of process control instruments is expected to grow considerably in the near future. Domestic demand for flow, pressure, level, and temperature instruments increased from $75 million in 1987 to $91 million in 1988.

Process control instruments, both pneumatic and electronic, are used extensively by the fertilizer, power generation, oil and gas extraction, chemical and petrochemical, pulp and paper, cement, rubber, plastics, metals, and food processing industries.

The Government of India's Seventh Five Year Plan (1985-90) identified computer control instrumentation, industrial electronics, and process production instruments as priority sectors, establishing an ambitious production target of approximately $1 billion by 1990. This production goal represents approximately 19 percent of the current electronics production in India. The Indian Government expects total investment in process control instruments to reach $350 million in 1990, with the public sector contributing 40 percent and the balance contributed by the private sector. The total Indian import market for process control instruments was $20 million in 1986, $24 million in 1987, and $30 million in 1988.

The present trend is for increasing use of microprocessor-based systems. However, demand also exists for on-line microprocessor-based, special purpose analytical and measuring instrument technology such as process chromatographs, dissolved oxygen, moisture, density, viscosity, vibration, accelerator and displacement monitors.

Medical Instruments and Health Care Equipment.- Health care facilities have expanded substantially in India in recent years, yet still fall short of basic needs. Although therapeutic, diagnostic, and analytical systems do exist in large urban hospitals, facilities available to large segments of the Indian population are inadequate. Until recently, domestic production of diagnostic equipment was limited to basic X-ray equipment, which accounted for more than 50 percent of India's total production of medical equipment. Although more than 40,000 X-ray units are in use in the country (half of which are at least 30 years old and prone to radiation hazards), and 1,200 new units are added every year, X-ray facilities are not available to the vast majority of India's 820 million people.

Despite the lack of sufficient health facilities and equipment, medical electronics has revolutionized diagnosis, therapy, and surgery in India during the last decade. India's domestic production of medical equipment has significantly broadened to

include specialized electronic instrument systems, including intensive coronary care units with central monitoring EFG, storage electromyographs, gamma ray fast medical scanners, etc. Analytical equipment for biochemical diagnosis is also being produced in India.

India's production of medical equipment and instruments, which is projected to total $320 million in 1990, includes diagnostic machines such as electrocardiographs, X-ray machines, cardiac pace makers (external), DC defibrillators, muscle and nerve stimulators, fetal monitors, ultrasonic and short-wave diathermy units, cardioscopes, patient monitoring systems, artificial electronic larnyx, hearing aids, and audiometers.

As the Indian medical equipment industry has yet to reach a high level of precision in sophisticated equipment, imports, particularly electronic and other high technology items, will continue to expand over the next several years. Under the existing import policy of the Indian Government, medical equipment characterized as life-saving equipment is allowed to be imported under Open General License (OGL) by government approved hospitals, clinics, medical colleges, research and development organizations and medical practitioners. Hospitals and diagnostic centers willing to treat 40 percent of their patients free of cost are exempted from payment of import duty on all high technology equipment.

Best sales prospects for sales in the category include radiographic equipment; X-ray equipment for catheterization/exhocardiography/vector cardiography; gamma cameras; therapeutic diagnostic for cancer treatment; implantable pacemakers; ballisto-cardiographs; intra-cardiac catheters; external pressure circulatory assist systems for microcardial infarctions; cardiotachomters; cardiac analyzers/computers; heart-lung machines with accessories; pumps for low infusion of anticancer drugs; catheters for arterial and venous cumulations; heart valve prosthesis; ultraviolet spectro-photometers; fiberoptics equipment; auto analyzers (pathology); electrophoresis apparatus; renogram; pathology equipment; computerized tomographic scanners; ultrasound scanning systems; amputatory monitoring equipment; artificial kidneys; biomedical engineering; hemodialyzers; cryogenic equipment; cryo-micro surgery equipment for cataract operations and for Parkinson's disease; lasers for eye and brain surgery; intra-cardiac catheterization equipment; cardiac output analyzers/computers; premature baby unit surgical equipment and incubators; fetal monitoring systems; gynecological equipment; optical fibroscopes; recirculating single pass dialysis apparatus; ultrasonic scanners; linear accelerators for cancer treatment; nuclear magnetic resonance imaging technology; and intermittent positive pressure breathing apparatus.

Mining and Excavation Equipment.- In addition to major development programs in the mining sector, construction of new power plants, ocean ports, irrigation dams, and roads will continue to raise domestic demand for mining and excavation machinery.

Although new investment programs for India's Eighth Plan (1991-95) have not yet been finalized, proposed energy development programs for thermal power plants and coal mines should provide for new investments exceeding $35 billion, almost double the outlay for similar programs in the Seventh Five-Year Plan. The proposed investments are likely to spur a substantial increase in domestic mining and construction activities in the next five years. Consequently, the market is expected to almost

double in size by 1995. The Indian market for mining and excavation machinery is dominated by a few large public sector manufacturers, including the Heavy Engineering Corp. (HEC), Bharat Earthmovers Ltd. (BEML), and the Mining and Allied Machinery Corporation (MAMC). These firms produce a wide range of machinery, including large draglines, electric mining shovels, heavy dump trucks, drills, dozers, loaders, and various underground mining equipment. Among the many manufacturers in the private sector, Hindustan Motors Ltd. (HM) and Larsen & Toubro Ltd. are the leading producers of dump trucks, hydraulic excavators, and other earthmoving machinery.

In order to protect domestic manufacturers, the Indian Government does not normally permit direct imports of mining and excavation machinery except in cases where imports are financed by bilateral loans or aid from multilateral lending institutions. Selective import opportunities for large, specialized equipment are expected to expand the value of the Indian import market in the coming years. From an estimated $125 million in 1988, imports are likely to increase to $135 million in 1990 and to $200 million in 1995.

Indian import requirements are primarily routed through the leading domestic manufacturers, many of whom have licensing and collaboration arrangements with foreign firms. Local manufacturers often procure orders for mining and excavation machinery from local end-users, import the necessary equipment or components from their respective foreign collaborators, then add further fabrications or assemble the machinery before delivering the finished product to the actual users.

Public sector companies producing coal for thermal power generation account for a large portion of purchases of mining and excavation machinery. At present, the domestic energy sector is the primary consumer of imported machinery. The coal sector alone purchased over 60 percent of all mining and excavation machinery imported into India in 1987. Procurement of machinery in the coal sector is be made by three public sector companies: Coal India Ltd. (CIL) and its seven subsidiaries, Singareni Collieries Ltd. (SCL), and Neyveli Lignite Corp. CIL has three major new open cast coal mine construction projects in progress, financed largely by a World Bank loan of $739 million.

Three additional Indian Government-owned public sector companies--Hindustan Copper Ltd. (HCL), National Mineral Development Corporation (NDMC), and National Thermal Power Corporation (NTPC)--are separately seeking to raise India's production of copper, iron ore, and thermal power generation, and are among the major prospective buyers of excavation equipment and services.

The best U.S. sales prospects are for the following equipment: 24 cubic meter draglines, electric mining shovels of over 10 cubic meters, dump trucks over 100 tons, 400 HP dozers, RBH drills 250 mm and larger, special purpose scrapers and loaders, and electronic equipment for mine communications and safety.

Shipbuilding and Port Maintenance Equipment.- Given India's growing international trade and industrial development, the need for shipbuilding and port maintenance equipment may exceed current projections. The total market demand was about $520 million in 1986 and was expected to rise to about $800 million in 1989.

Indian shipbuilding is confined to a few firms, including Hindustan Ship Yard, Garden Reach Calcutta, Mazagoan Dock, and Goa Ship Yard. Hindustan Ship Yard is the leading builder with 90 ships to its credit. The Seventh Five-Year Plan (1985-90) called for raising gross registered tonnage (GRT) from almost 6 million GRT in 1986 to 7.5 million GRT by 1990. The accent is on modernization, replacing old and uneconomic tonnage with specialized and fuel efficient ships of varying types and sizes.

The Seventh Five-Year Plan allocated $945 million for port maintenance and facilities improvement. In addition, $390 million was earmarked for the construction of the Nhava Sheva Port near Bombay. A major step toward modernization of Indian ports involves containerization. Currently, the ports able to handle containers are Bombay, Cochin, Calcutta/Haldia, and Madras. The Indian Government plans to expand its inland container depot network and hopes to increase the share of general cargo carried in containers to 50 percent.

India has applied to the Asian Development Bank for a $12.5 million loan to assist the Calcutta Port Trust in modernizing its container handling terminal. Calcutta port authorities have submitted to the central government a multimillion dollar plan for the private sector to establish and operate a modern container terminal at Haldia. If approved, this will be the first major step in privatizing Indian cargo facilities.

U.S. equipment with the best sales potential includes harbor and dockside equipment such as floating cranes, wharf cranes (50 ton capacity and over), gantry cranes, stackers, port trainers, trans trainers, vacuum lifting equipment, heavy-duty loading and unloading systems, reclaimers, and other containerization equipment. Additionally, shipboard navigation equipment such as radars, echo sounders, direction finders, satellite navigators, and sophisticated traffic control systems possess good market potential.

Leather Products Machinery.- While the Indian leather product machinery industry has begun to mechanize and modernize, it still has yet to develop to international standards. The Government of India announced a leather export strategy in 1986 that offered an incentive package to manufacturers of footwear, garments, and travel accessories. The Indian Government's export promotion policies have been accompanied by the liberalization of imports of leather processing machinery. The new policy objectives are to (1) stimulate leather industry growth by providing easier access to critical imported capital goods, raw materials, and components; (2) to accelerate modernization, technological advances, and international competitiveness; and (3) to expand the Open General License (OGL) list designed to encourage higher value addition. As a result, greater numbers of Indian firms are entering the leather export market.

The Indian leather processing industry consists mainly of small and medium-size firms. The leather industry has traditionally been centered around Agra, Ambur, Bangalore, Bombay, Calcutta, Delhi, Kanpur, Ludhiana and Madras. Madras is the largest supplier of leather, producing an estimated at 90 percent of India's output.

The Council for Leather Exports (CLE) and the Central Leather Research Institute (CLRI) are the industry's two leading trade associations. According to these two organizations, the market demand for leather products machinery is expected to grow

at an annual rate of 39 percent between 1989 and 1991. The leather footwear sector recorded a growth of 59 percent in 1988 over the previous year. The leather garment market, which is still in its nascent stage, is also expanding rapidly. Specific equipment categories offering good potential for sales of imported equipment include strap cutting and folding machines, skiving machines, upper folding machines, staple side lasting machines, cut-sole stitching machines, heel seat lasting machines, hand vulcanizing presses, pattern-making machinery, and industrial sewing machines.

Telecommunications Transmission Equipment.- The Indian Government has given priority to development of a more reliable and efficient communications network. A combination of several factors, including the thin spread of the telecommunications network, a list of over 1 million people awaiting telephone connections, and problems with compatibility, integration, and maintenance have all affected the growth of the telecommunications sector. Telephone density in India is very low (0.45 per 100 persons) in comparison to the global average of 10 telephones per 100 persons.

Ownership of the communications network, installation, and maintenance of services in India is controlled exclusively by the Government of India. The Ministry of Communications is the largest buyer of telecommunications equipment. Prominent public sector buyers include Mahanagar Telephone Nigam Ltd. (MTNL), Videsh Sanchar Nigam Ltd. (VSNL), the Oil and Natural Gas Commission (ONGC), and the National Thermal Power Corporation, as well as the defense, steel and coal authorities.

Other major end-users are All India Radio and Doordarshan (television broadcasting), the Gas Authority of India Ltd. (GAIL), Oil India Ltd. (OIL), the Indian Police, and other Indian Government and state government-owned companies.

The private sector is allowed to manufacture most subscriber equipment, including telephones, automatic answering machines, modems, transmission equipment (jelly filled cables), and low-capacity switching equipment (EPABXs). As a result of a recent change in regulations governing the industry, the private sector can now manufacture line transmission equipment with a capacity of 120 voice/data channels or less and wireless apparatus of the following types: (1) multichannel radio relay systems up to 120 voice/data channels, (2) paging systems, and (3) low-power wireless control equipment such as cordless telephones, cordless microphones, and remote control units for televisions. The manufacturing of other types of telecommunications equipment is allowed only by government-owned companies.

The Indian telecommunications industry is changing from analog to digital technology. To keep up with technological changes taking place abroad, there will be continued rapid growth in the Indian market for imported as well as domestically produced communications equipment such as coaxial cables and systems, jelly-filled cables, optical fiber cables and systems, microwave transmission systems, satellite equipment, earthstations, and cellular mobile radios.

The government has specifically identified the transmission sector as a weak link in the Indian network, and it is beginning to pay greater attention to the development of this field. The current Indian network is based on equipment that meets standards set by the International Consultative Committee on Telephone and Telegraph (CCITT). Hindustan Cables Ltd. (HCL), Bharat Electronics Ltd. (BEL), Electronics Corporation

of India Ltd. (ECIL), and Indian Telephone Industries (ITI) are the largest Indian Government firms in the sector. In addition, a number of state government corporations are becoming increasingly active.

With ongoing efforts to develop digital switching systems at the Center for Development of Telematics (C-DOT), Indian Government policy-makers plan to upgrade the existing transmission technology levels. Part of a $345 million World Bank loan to India will finance the installation of digital transmission facilities in Bombay, Calcutta, New Delhi, and Madras.

The demand for fiber optics is expected to grow significantly during the Eighth Five-Year Plan (1990-95). In a study by the Indian Government, the projections collated from different user departments indicate an annual requirement of approximately 40,000 km (25,000 miles) of fiber optic cable during 1987-92, and around 60,000 km (37,000 miles) during the last three years of the Eighth Plan. It is estimated that half of the total demand for fiber optic cables will be shared by the Ministry of Communications, Mahanagar Telephone Nigam Ltd. (MTNL), the railway, and the defense, power, and oil sectors. Additionally, cellular technology is being sought to develop mobile radio communications and paging facilities in Bombay, Calcutta, New Delhi, and Madras.

INSAT I-C is India's third multipurpose, geostationary spacecraft for telecom, TV broadcast, radio networking, and meteorological applications. Launched in July 1988 from Kourou, French Guyana, by the Ariane Launcher, it is an in-orbit companion to the earlier INSAT I-B space satellite currently in operation and will provide additional capacities for telecommunications and television. The fourth satellite, INSAT I-D, built by Ford Aerospace Communications, is to replace the INSAT I-B. Market opportunities exist for U.S. suppliers of broadband digital microwave radio equipment, radio paging systems, echo cancellers, cellular radio systems, digital multiplexors, point-to-multipoint radio systems, digital circuit multiplication equipment, fiber optic cables and systems, satellite systems, VSAT's, and antenna systems.

Laboratory, Scientific, and Analytical Equipment.- The Indian market for scientific and analytical equipment presents opportunities to foreign firms supplying sophisticated instruments and equipment that are not produced in India and which are considered essential to meet the requirements of high priority sectors.

Domestic production in this industry has a fairly extensive base covering a broad range of standard and intermediate technology instruments. Indigenous production of simple instruments is adequate to meet the bulk of the demand for both general purpose and semi-specialized instruments of various types, including laboratory apparatus, surveying and drafting instruments, measuring and controlling instruments, totalizing fluid meters, counting devices, and optical instruments. Almost 50 percent of the market share is met by manufacturers adopting intermediate technology, while production of sophisticated, more costly high technology instruments is limited.

Imports have increased over the years. Indian research and technology has reached a stage where the use of sophisticated instruments is imperative. Since certain types of instruments are not produced within the country and are not likely to be produced domestically in the near future, the demand will continue to be met through imports.

Products that offer the best sales potential include precision measuring tools such as micrometers, dial indicators, and inspection instruments; laboratory instruments such as hue measuring and magnetic force analysis instruments, laser instruments, and sophisticated chemical analysis instruments for gas, petroleum, and coal analysis; analytical optical instruments such as spectrophotometric equipment, thermal analysis instruments, and electron and proton microscopes.

Power Generation, Transmission, and Distribution Equipment.- India's electrical generating capacity currently stands at 46,900 MW. Of this total, thermal-electric plants generate 29,936 MW (63.8 percent), hydroelectric 15,634 (33.3 percent), and nuclear 1,330 MW (2.8 percent). Power shortages of between 8 and 10 percent are common despite a growth in capacity of between 1,000 and 2,000 MW per year. As a result of these shortages, industrial production losses amount to approximately Rs. 25 billion ($1.5 billion) annually. However, in times of power cuts, agriculture always takes precedence over industry.

India's transmission and distribution systems are especially weak. Transmission and distribution losses, which equalled 13 percent in 1960-61, rose to 21.7 percent by 1985. Much of the supply problem derives from voltage and frequency variations. High voltage 400 KW lines are rare. Most transmission operates on 220 and 132 KW. Distribution voltages are 33, 11, and 6 KW. System frequently is 50 hertz, 440/230 volts.

The Capital Electricity Authority (CEA) is responsible for overall planning and project coordination. However, generation and distribution of power are effected by 5 regional and 21 State Electricity Boards (SEBS) under the auspices of the CEA.

Additionally, the government formed the National Thermal Power Corp. (NTPC) and the National Hydroelectric Power Corp. (NHPC) to develop facilities for projects too large or complex for individual users to handle, in addition to improving the transmission and distribution systems that will lead ultimately to the formation of a national grid. The Rural Electricity Corporation and the Department of Atomic Energy operate under a different charter.

The NTPC is constructing coal-fired plants to increase capacity and improve supply at Singrauli and Rihand in Uttar Pradesh, Korba, and Vindhyachal in Madhya Pradesh, Ramagundam in Andra Pradesh, Farakka in West Bengal, and Badapur in Delhi, all near mining sites. When completed as scheduled in 1993, the 41 units will have a total capacity of 14,280 MW. Seven more plant sites have been announced adding an additional generating capability of 12,300 MW. Electricity will be transmitted to the SEBS through new 400 KW high voltage DC lines extending 5,593 miles.

Though the potential for hydroelectric power in India is enormous, it is difficult to develop. The Advisory Board on Energy has strongly recommended measures to achieve a higher hydroelectric/hydro-thermal mix by the turn of the century. The board has recommended creation of an additional 10,000 MW of hydoelectric capacity in the Eighth and Ninth Plan periods. Figures projected by the board reveal that exploitation of India's full hydroelectric potential would yield at 135,000 MW and could result in annual savings of $13.5 billion, and also avoid a tremendous strain on the coal and transportation sectors. The hydroelectric generating capacity expected to be created by the end of the Seventh Plan (1985-90) is only about 20,000 MW.

However, the Indian Government has announced plans to develop three large hydroelectric projects during the Eighth Plan (1990-95).

The Indian Government is also planning to establish gas-based power projects with 4,000 MW capacity during the Eighth Plan (1990-95). The Indian Government's Central Planning Commission is studying the possibility of committing about 30 million cubic meters of gas per day for gas-based project units of 800 MW (4 X 200 MW) each in Gujarat, Rajasthan, and Uttar Pradesh. Moreover, the planning commission feels that to achieve speedier economic development, the commitment of gas for power development has become imperative.

To supplement publicly financed power generation projects, the Indian Government is giving serious consideration to opening up power generation to private sector investment. To encourage such investment, the government may offer the private sector access to foreign bank loans to finance new power projects at commercial rates of interest and is considering legislative amendments to allow returns on investment.

The market for power equipment has been dominated for the last decade by the government-owned Bharat Heavy Electricals Ltd. (BHEL), which is the largest single manufacturer in India of large generation, transmission, and distribution equipment. While BHEL receives favorable treatment from the Indian Government, its record as a supplier of reliable equipment is not outstanding. There is an awareness that if future power projects are to succeed and be completed on time, India will increasingly need to look beyond its frontiers for quality equipment.

U.S. power generation, transmission, and distribution equipment that holds the best potential for sales in India includes complete thermal power station equipment of 200 MW capacity and above; pulverizer mills; load burners; start-up oil fire equipment; high-capacity ash handling systems; multibular dust collectors and electrostatic precipitators; boiler feed pumps; selected safety and relief valves; reheat type boilers for thermal power stations of 200 MW capacity and above; hydrogen cooled generators compatible with 200 MW and above capacity turbines; high-capacity oil and air circuit breakers and transformers; selected control instrumentation systems; components and parts; and small-size thermal power generation equipment to meet the captive power demand of large industrial plants. In addition, significant potential exists for sale of mini- and micro-hydraulic turbines.

Consulting Engineering Services.- The Government of India accords a high priority to the implementation of major projects in civil engineering construction in sectors such as electric power generation, irrigation, alternative energy sources, telecommunications, chemical and petrochemical plants, and large pipelines.

India has over 200 engineering consultancy organizations staffed with about 20,000 professionals. Because local engineering contractors and project consultants have gained experience over a period of time in handling detailed engineering, drawing specifications, inspection and supervision of plant, and machinery construction, only limited potential exists for foreign consulting engineering firms to act as prime consultant. Nevertheless, overseas consultants and consulting engineering services are welcome in specialized segments of projects demanding sophisticated applications. Indian firms often seek out foreign firms to qualify for tender bidding. This is especially true for World Bank and other multilateral financing projects.

With the exception of engineers offering architectural services, practicing engineers are not required to be licensed nationally. However, foreign engineers are required to be registered with the municipalities within whose jurisdiction they plan to practice.

The Institution of Engineers (India), 8 Gokhle Road, Calcutta 70020, with an estimated membership of 45,000 corporate, associate, and fellow members is one of India's largest professional engineering societies. Another is the Association of Consulting Engineers (India), located at 14 Asaf Ali Road, New Delhi 110001, with an estimated membership of 80 senior consulting engineers. Although a local representative is not legally required for a U.S. consulting engineering firm desiring to practice in India, if one is engaged, the representation should preferably be an Indian citizen. If the local representative is non-Indian, the approval of the Reserve Bank of India must be obtained prior to such an appointment. In all foreign collaboration agreements, the Indian Government generally requires the foreign firm to associate with an Indian engineering consultancy firm to perform the project. It is the Indian Government's policy to make maximum use of local personnel. Permission for use of expatriate personnel on a continuing basis is granted by the government only under exceptional circumstances.

For very large projects, turnkey bids are generally favored. Contracts with consultants are made both by price bidding and negotiation, with the form chosen dependent on the complexity of the project and the type of services being solicited. It is possible to adopt negotiated contracts preceded by prequalification. In government contracts, dispute settlements must be arbitrated in accordance with the Indian Arbitration Act. Pre-bid financial requirements are generally imposed.

U.S. consultant firms are required to pay local corporate and other taxes on all incomes accruing or deemed to accrue in India (see "Taxation" section). The consultant-engineer employer is responsible for the payment of social costs as well as wages and take home pay of salaried and wage earning employees. Fringe benefits for blue-collar workers amount to an additional 50 percent over basic wages in labor costs. In a few industries, the incidence of fringe benefits could be as high as 100 percent. Fringe benefits for salaried employees range between 40 and 50 percent in labor costs. The following government agencies employ consulting engineering firms for public works or other types of engineering: Ministry of Steel and Heavy Engineering; Ministry of Petroleum and Chemicals; Ministry of Defense; Ministry of Works, Housing, and Urban Development; and Ministry of Energy.

GOVERNMENT ROLE IN THE INDIAN ECONOMY

Scope of Government Activity

The Government of India continues to be the principal influence on the direction of the economy. While there has been a selective relaxing of controls, there has been no fundamental change. Government development plans and economic policies still guide and regulate economic activity.

Industrial Policy

The Industries (Development & Regulation) Act of 1951 provides the legislative framework for implementation of the Indian Government's industrial policy, which was first set out in 1948 and then revised by the Industrial Policy Resolution in 1956.

The original policy envisaged a mixed economy in which the public sector would play the dominant role. It restricted certain industries to exclusive government ownership (Schedule A Industries), such as air and rail transport, communications, power, minerals and mining, electricity generation and distribution, and atomic energy. A second category of industries (listed in Schedule B) was identified where the state would establish new undertakings, while also allowing private enterprise an opportunity to develop in this field, either on its own or with state participation. All industries falling outside these two schedules are open to the private sector.

Under the Industries Act, a license must be obtained from the government for establishing a manufacturing facility in certain industries (specified in the first schedule). The licensing regime has proven to be very cumbersome and has often been criticized by industry as an impediment to industrial development.

In recent years, the government has introduced reforms with a view toward liberalization and facilitation of industrial investment. Certain industries have been exempted from the licensing discipline and broad-banding (flexibility to adjust the product mix within broad sectors) was introduced in 30 other groups of industries. The government is also contemplating the entry of the private sector in a few Schedule A industries, so far exclusively reserved for government ownership. A segment of telecommunications equipment manufacturing has been opened to the private sector, and the government is also developing guidelines to permit private enterprise in power generation.

Development Planning

The Indian Government directs and mobilizes investment resources for targeted economic growth through its five-year plans. The plans set national priorities, identify goals and targets for each sector, and allocate resources for meeting these objectives. To achieve compliance with plan objectives, the government regulates and guides the production and price levels of certain products, as well as the country's credit and foreign exchange.

The development and investment programs for the Eighth Five-Year Plan (1991-95) are likely to be finalized in 1990. According to preliminary reports, a total investment of over $450 billion is envisaged during 1991-95. The Eighth Plan will place a high priority on export earnings and import substitution. The new plan is also likely to reinforce priorities from the Seventh Plan, including rural and agricultural development, generation of additional employment, expansion of infrastructural facilities (primarily energy), industrial modernization, and reduction of poverty and regional imbalances.

Public sector investment occupied a dominant position in development plans through 1985. Since then there has been a significant shift toward investment by the private

sector. This shift reflects a growing recognition of the potential of private sector initiative combined with the constraints on public investment imposed by government budget deficits.

The Indian Budget

The Indian Government budget for fiscal year 1989-90 (Indian Fiscal Year: April 1 thru March 31) was based on official estimates of a 9 percent growth in national income and a sharp 20 percent increase in agricultural production. The budget anticipated a sharp fall in public savings, rising public debt, and an increasing budget deficit. Public debt has almost doubled in the past five years. The budget also underscored several disquieting trends, including (1) cost overruns in the range of 40-90 percent of the original estimates for many public sector projects due to extensive delays in project implementation; and (2) the rising nonplan, nondevelopment expenditures (defense, administrative expenses, and subsidies on food and fertilizer) that increased by about 35 percent from the 1985-86 level and now account for 14 percent of GDP.

TRADE REGULATIONS

Indian Trade Policy

Foreign trade is governed by a strict import/export licensing regime that seeks to conserve foreign exchange, promote import substitution, and ensure that imports conform to the economic objectives and policies of the Indian Government.

The legal and regulatory basis of the import/export regime is provided by (1) the Imports and Exports (Control) Act of 1947, which empowers the federal government to prohibit, restrict, or otherwise control imports and exports; (2) the Imports Control Order of 1955; and (3) the Exports Control Order of 1988. Import of gold, silver, currency notes and coins, and bank notes is controlled by the Reserve Bank of India, under the Foreign Exchange Regulation Act.

While there has been a selective liberalization in India's import policy in recent years, the government retains its flexibility to loosen or tighten controls in response to balance-of-payments problems and the domestic availability of individual products.

Primarily to impart stability to the business environment, the government has moved away from its tradition of announcing the import policy on an annual basis and now presents a policy valid for three years (although a revised Import/Export Policy, formulated in April 1990 by the newly elected central government, cut short the existing policy which was not due to expire until March 31, 1991). Although the basic structure of the policy remains unaltered during the three-year period, licensing and tariffs continue to be reviewed on an annual basis with changes and amendments announced periodically. A revised version is published at the beginning of each fiscal year to reflect the modifications made during the previous year. The policy is formulated by the Chief Controller of Imports & Exports (CCI&E), Ministry

of Commerce, and set forth in two volumes entitled Import & Export Policy (Volumes 1 and 2) along with a companion publication, The Handbook of Procedures - Import & Export Promotion. These publications describe the application of import regulations to different products. India's import policy does not discriminate between foreign sources of supply, and the government does not normally direct importers to buy from a particular source. India has special trade agreements with certain Eastern European countries under which bilateral trade is conducted in nonconvertible Indian rupees through a central clearing account. Imports from the Republic of South Africa, Namibia, and Fiji, with which India does not maintain trade relations, are prohibited.

Import Licensing

Every importing entity, individual or corporate, requires a valid code number issued by the Office of Chief Controller of Imports and Exports (CCI&E), for importing goods into India. Import licenses are issued by the CCI&E in New Delhi or its branch offices located throughout India. The licensing system is complex and contains numerous restrictions, qualifications, and exemptions. For purposes of licensing, importers are divided into the following broad categories: (1) actual users who may be industrial or nonindustrial; (2) registered exporters, i.e., those who import under the special import facilities allowed to such exporters; and (3) others. Since the import policy can vary depending on the type of importer, it should be the responsibility of the Indian importer or the Indian agent of the U.S. supplier not only to obtain accurate information, but also to ensure compliance with all import regulations, procedures, and formalities. Clarifications and questions on the subject can be addressed to the Public Relations Officer, Office of CCI&E.

All goods that fall within the purview of the import policy must enter India under license--either one of a variety of specified licenses, or under Open General License (OGL). In the latter case, no specific license need be requested, and foreign exchange is made available for payment, provided the import is in compliance with "user" conditions. Most items can be imported only by designated users, and the policy generally restricts the importation of items on "stock and sale" basis, save for a few products with a large distribution base that may be imported for resale. These products include cinematograph films, timber logs, certain enzymes, copper and brass scrap, and energy saving and conservation equipment.

For purposes of import, machinery and equipment have been classified under three categories: restricted, allowed for import by actual users under Open General License (OGL), and all other equipment not listed in the previous two categories. The import of non-OGL products is considered on merit and is allowed only after approval by various Indian Government agencies. The import policy generally does not permit import of goods that are manufactured indigenously in sufficient volume to meet domestic demand. However, for selected industrial sectors, the Indian Government permits global tendering for import of capital goods, irrespective of indigenous availability of such products. Fertilizers, basic drugs, power generation, petroleum exploration, sugar, cement, newsprint and paper, and mineral exploration are sectors where this facility is allowed.

India's import policy classifies raw materials, components, and consumables into five categories: banned, restricted, limited permissible, canalized, and Open General License. A large number of raw materials and components are placed under OGL. Items appearing in the restricted, limited permissible and canalized list are available indigenously in varying degrees, and import is permitted only to meet domestic supply shortages. Import of finished consumer goods and consumer durables is not normally permitted. The import of certain items, mainly commodities such as vegetable oils, sugar, fertilizers, and metals and minerals is made through designated public sector agencies, with the volume of imports decided by the government. Import licenses are usually issued on a c.i.f. basis with the value of the license including the commission paid by the manufacturer/supplier to the importer or agent. Import licenses are normally issued in duplicate and have a validity ranging from 18 to 24 months.

When goods are to be imported under OGL or on a valid license, authorized dealers in foreign exchange are permitted to open letters of credit or make remittances to cover imports. No advance payments or remittances are allowed except for capital goods and heavy electrical plants where a partial payment may be authorized by the Reserve Bank of India as a down payment to foreign suppliers.

In order to encourage exports, the Indian Government offers special privileges to exporters and grants replenishment and additional licenses that can be used for import of a variety of items. These licenses, offered as an export incentive, are freely transferable. Another group of import licenses--advance licenses, intermediate advance licenses, and impress licenses--are available to exporters for importing raw materials and components used to manufacture goods for export.

Import of Technology

India's technology policy advocates a mix of indigenous and imported technologies. It seeks to promote the development of indigenous technology and the absorption and adaptation of imported technology appropriate to national priorities. The Indian Government looks favorably upon the import of technology in cases where (1) need has been established, (2) similar technology does not exist within the country, and (3) the lead time required to develop it indigenously would entail delays in implementing important development programs. There is a strong emphasis on developing and supporting technologies that may have export potential. The government encourages importers of technology to engage in joint R&D with foreign firms to further develop imported technology. To provide for technological modernization, the Indian Government has created a Technical Development Fund to support the importation of technical know-how, equipment, design and drawing equipment, etc., particularly in cases where it leads to cost reduction, improved efficiency, and improved export potential. The fund is available to all industries with the amount of money available to any single unit limited to Rs. 2 million ($1.2 million).

Import of Trade Catalogs and Advertising Material

Trade catalogs and advertising material supplied free of charge, if valued under Rs. 2,000 ($118) c.i.f. value per consignment, are allowed to be imported duty free. In shipping such material, care should be taken to ensure that (1) the c.i.f. value for

customs is indicated (not exceeding Rs. 2,000 or the equivalent dollar value); (2) the item is defined as either "advertising brochures" or "printed matter"; (3) the invoice clearly states the number of catalogs or brochures, their weight and dimensions; (4) the invoice does not state that any payment is due from the recipient and also states that the value mentioned is for customs use only; (5) the invoice and the packages should state that the shipment is being made under OGL 4; and (6) the shipment should preferably be sent on a freight prepaid basis.

Import of Blueprints, Drawings, and Technical and Trade Samples

Open General License No. 4/88 permits the importation of the following goods and material: (1) blueprints and drawings (including microfilm) relating to machinery and plant sites, work and building research data, supplied free of charge and having no commercial value; and (2) bonafide technical and trade samples supplied free of charge, but not exceeding Rs. 20,000 ($1,183) c.i.f. value, in one consignment, with the exception of vegetable seeds, bees, and new drugs. Customs authorities will not allow any item to be imported as a trade sample under OGL 4 if the import of such an item is not permissible under the import policy in force at the time of shipment. For speedier clearance of such material, both the invoice and packages should mention that the material is being supplied under OGL 4 and the value indicated is for customs use only.

Replacement of Defective Goods

The importation of goods free of charge by a foreign supplier or against an insurance claim, in replacement of products previously imported but found defective, is permitted by the import policy under OGL 4. The shipment of replacement goods should occur within 24 months of the earlier shipment or within the guarantee period if it is more than 24 months. No remittance for such material, except payment of insurance and freight charges, is allowed to be made by the Indian importer. Certain documentary formalities must be complied with, and suppliers should coordinate replacement shipments with their Indian clients and shipping agents.

Import of Used Equipment

Used machinery or equipment is eligible for import under the OGL category provided it is not older than seven years and has more than five years of expected residual life. The age of the equipment and the residual life must be certified by a professional independent chartered engineer or any institution of engineers in the country from which such import is made. This certificate is required by the Indian customs authorities at the time of clearance.

Applications from actual users in India for import of used machinery and equipment other than those placed under OGL are considered on merit. The import policy has specified procedures to be followed by Indian applicants in such cases.

Import of Spares

Indian policy distinguishes between restricted spares (defined as those listed under restricted or limited permissible categories and covered in Appendices 2, 3, 8, or 10 of the Indian import policy) and permissible spares (all others not belonging to the above categories).

Actual users are allowed to import permissible spares on an OGL basis for maintenance of capital goods. In the case of restricted spares, importation is allowed against a license normally issued up to 2 percent of the value of the imported plant, machinery, or equipment. Restricted spares are also allowed to be imported by actual users to maintain indigenous equipment that may be produced from certain imported components. However, in such cases the value of the license is limited to 1 percent of the purchase price of the local equipment.

Indian manufacturers of equipment and machinery listed in Appendix 9 of the import policy are eligible for licenses to import restricted and permissible spares to provide warranty or meet after-sales-service requirements of their customers. The value of such licenses is limited to the higher of 1.5 percent of the ex-factory value of production or 2 percent of the c.i.f. value of the imported components.

Restrictions on the value of a single item of restricted spares apply in all the above cases and careful reference should be made to the import policy and regulations for specific cases.

Indian agents of foreign machinery manufacturers are eligible for import licenses for spares. The value of such licenses is calculated at 3 percent of the c.i.f. value of machinery or equipment imported through the applicant during the previous 10 years. The import of spares in these cases is allowed on a stock and sale basis.

Special guidelines exist for import of spares for motor vehicles, computers, aircraft, ship repairs, and certain other sectors. The import policy should be consulted for accurate guidance on these issues.

Temporary Import of Equipment for Demonstration

India recently became a signatory to the ATA Carnet, an international convention under which Indian import policy permits importation of equipment and nonconsumable goods for private exhibition as well as for demonstration in fairs approved by the Trade Fair Authority of India. These goods can be imported without an import license, but are required to be reexported within a period of six months from the date of import. If importers are unable to reexport the equipment during this period, they may seek an extension from the Chief Controller of Imports and Exports.

At the time of clearing the imported equipment, the importer executes a bond or a bank guarantee (or any other instrument to the satisfaction of customs authorities) usually equal to 250 percent of the invoice value, which stands as an assurance from the importer that the goods will be reexported. The bank guarantee or bond is discharged after the reexport commitment has been met, or in cases where the equipment has been sold locally, after payment of applicable duties. In exceptional

cases, the equipment imported for demonstration purposes can be sold in India, provided a valid import license exists and other customs formalities are met.

To assist American companies importing equipment for demonstration/exhibition at U.S. Government-organized trade events, the American Embassy and Consulates facilitate temporary import of equipment by providing an assurance for reexport of the imported equipment. This commitment is invariably accepted by the Indian customs authorities and saves the U.S. or Indian firm the cost of a financial guarantee. The extension of the U.S. Embassy bond facility is at the discretion of the Embassy or Consulate officer and contingent upon the U.S. firm undertaking full responsibility to meet all requirements, including reexport within six months. If accorded the Embassy guarantee facility, the U.S. exporter or the exporter's Indian representative is required to pay a nominal fee ($50) to cover administrative costs and also bear all other costs directly related to the shipment.

Reimport of Equipment after Repairs Abroad

Under OGL No. 4 of the Indian import policy, the reimport of items into India (excluding consumer durables) is permitted subject to the satisfaction of the customs authorities that the reimported equipment is the same as that sent abroad for repairs. The repairs may either be carried out free of charge or on payment of up to 10 percent of the c.i.f. value of the machinery (30 percent of the c.i.f. value of imported parts or subassemblies in case of electronic and computer subassemblies) but not exceeding Rs. 100,000 ($5,900) in value.

Importing Personal Effects by Foreign Nationals on Transfer to India

Foreign nationals transferring residence to India for a minimum period of one year are allowed duty-free importation of personal and household effects provided:

(1) The person affirms by declaration that the goods have been in his family's possession and use for at least one year.

(2) The goods must either accompany the passenger or be shipped by air within 15 days or shipped by surface within 1 month of the foreign national's arrival in India.

Unaccompanied baggage requires Indian Government approval, which is granted if a foreign national is present in India with a valid one-year visa.

Duty-free treatment applies to all personal and household effects, except for air conditioners, refrigerators, deep freezers, motor vehicles, vessels, aircraft, and cinematograph films.

Professional equipment up to a value of Rs. 5,000 ($296) can be imported duty-free upon presentation of evidence that such equipment is required for the person to perform his/her duties. Items including, but not limited to, cameras, typewriters, cassette recorders, and dictaphones are not allowed to be imported under this category.

Import of firearms and narcotics is prohibited.

Pets may be imported subject to valid health certificates issued by the country of origin.

Goods are cleared through customs upon presentation of the foreign national's passport, bill of lading, and inventory--including dates of purchase and packaging list.

Tariff Structure

India's Customs Tariff (Amendment) Bill of 1985, replaced the former import tariff schedule based on the Customs Cooperation Council Nomenclature (CCCN) with a new schedule based on the Harmonized System formally adopted in February 1986.

Import duties are applied to almost all items imported into India and are a major source of revenue for the central government. Tariffs can exceed 300 percent. However, with some exceptions, duties are in the 40-60 percent range for basic raw materials; 60-100 percent for semiprocessed goods; and 100 percent and above on finished and consumer goods. The total tariff normally is comprised of three components: (1) basic or standard duty, which is applied ad valorem and calculated on the c.i.f. value; (2) an auxiliary duty (30 percent if the basic duty is below 60 percent and 40 percent if the basic duty is 60 percent or above); and (3) an additional duty that is a surcharge equivalent to the excise duty (tax on production) leviable on a like article if produced or manufactured in India. Duty revisions normally coincide with the announcement of the government's annual budget, although amendments may be issued periodically and are published in the Gazette of India and the India Trade Journal.

India's tariff structure has numerous exceptions, exemptions, and drawbacks. U.S. firms contemplating joint ventures that involve capital equipment imports should consult with Indian custom authorities to determine applicable duty rates.

Special Customs Provisions

In cases where goods require an import license, the Indian importer registers the import license with the custom authorities at the port of entry designated on the license. U.S. exporters should strictly comply with the instructions and documentation requirements of the Indian importer. This will facilitate speedy clearance of the cargo. It is important that the description of the goods, the import license, and the physical packages conform to the invoice to avoid ambiguities. The clearance and assessment of duties is the prerogative of the customs authorities and penalties imposed by them for unauthorized import or contravention of the import control regulations can be severe. Violations can result in imposition of fines, confiscation of goods, prosecution of the importer, or a combination of the three.

Labeling and Marking Requirements

All labeling of packages should be in large and conspicuous lettering in indelible ink or print, directly on the containers, not on a tag, sling, or label. As appropriate, the weight, center of gravity, and sling or grab points may be marked as aids to proper handling. To discourage pilferage of valuable cargo, trade names that reveal the nature of contents should not appear on the outside of the cargo. For government orders, the shipping marks must show consignee, order number as specified in the contract, and port of entry.

U.S. Export Controls

The Department of Commerce enforces export controls to protect national security, to promote foreign policy goals, and to prevent the excessive drain of scarce materials. The Export Administration Regulations (EAR) place the nations of the world in several country groups for export control purposes. India is a member of Country Group V, which includes all non-communist nations outside the Western Hemisphere.

The type of commodity or technical data and its end-use determine the licensing requirements for any given export. For most "V" countries, including India, the general policy requires prior approval by the U.S. Government for the export or reexport of commodities and technical data that are controlled because of national security, nuclear nonproliferation, or foreign policy concerns. The general policy is one of approval of all applications unless there is a reasonable basis to believe that the commodity or data may be used for other than an acceptable end-use, or may in some way conflict with U.S. national interest.

Procedures for expediting export licenses for India have been implemented under a Memorandum of Understanding (MOU) on Technology Transfer between the United States and India. Signed in 1984, the MOU established a framework for assuring high-technology items are safeguarded from diversion to third countries.

Since India is not a signatory to the Nuclear Non-proliferation Treaty, export license applications for India that involve high-technology equipment intended for, or with potential for, nuclear use receive closer scrutiny from the responsible U.S. agencies. To avoid delays in the issuance of U.S. export licenses, exporters are advised to provide a detailed technical description of their commodity and specific information on its end-use with the license application.

Exporters should address questions about U.S. export controls to the nearest Department of Commerce, International Trade Administration district office or to the Bureau of Export Administration (Export Counseling Staff), Room 1099D, U.S. Department of Commerce, Washington, D.C. 20230, Tel: (202) 377-4811 (General Questions and Regulations), 377-2753 (Export License Status), or (202) 377-8547 (if calling from overseas); Fax (202) 377-3617.

General Agreement on Tariffs and Trade

India is a signatory to the General Agreement on Tariffs and Trade (GATT). India and the United States are participating with over 100 countries in the Uruguay Round of multilateral trade negotiations, the eighth such "round" held under the auspices of the GATT. During the course of the Uruguay Round, scheduled to conclude in December 1990, trade ministers agreed to conduct negotiations on agriculture, trade-related aspects of intellectual property rights, trade-related investment measures, tariffs, subsidies, and safeguards. The ministers also agreed to conduct a review of the articles of the GATT, the dispute settlement mechanism, and the codes negotiated during the Tokyo Round, as well as the overall functioning of the GATT system.

India and the U.S. GSP System

India's exports to the United States have received a significant boost from the U.S. Generalized System of Preferences (GSP). This is a program of unilateral and non-reciprocal tariff preferences granted by the United States to developing countries with the specific objective of supporting their development through expansion and diversification of exports to developed country markets. At present the U.S. GSP program grants duty-free entry to approximately 4,100 products from 136 designated beneficiary countries.

India has been a beneficiary of the U.S. GSP program since it was first instituted on January 1, 1976. India ranked 11th among beneficiaries in 1988, with $349 million in GSP duty-free exports to the United States, up from a ranking of 12th in 1987 with $252.4 million. India's GSP utilization rate has increased continuously from 86.8 percent in 1984 to 95 percent in 1988.

Textile Agreements

The Multi-Fiber Agreement (MFA), which governs world trade in textiles, was renewed beginning July 1986, to remain in force through the end of June 1991. Under the aegis of the MFA, India has entered into bilateral textile agreements with important textile importing countries. The current Indo-U.S. bilateral agreement came into effect in February 1987 and will be effective through December 1991.

DISTRIBUTION AND SALES CHANNELS

Market Characteristics

India's size and economic potential offer a profitable market for U.S. businesspeople who understand the system and have the patience to deal with the Indian bureaucracy and regulatory climate

An American business executive faces two crucial questions in deciding whether to attempt a marketing venture in India: (1) whether a similar product or acceptable substitute is manufactured in India in sufficient quantity to satisfy domestic demand

and (2) whether the product is considered a luxury item or one not essential to the basic needs of the population or the economy. If the answer to either one of these questions is yes, then Indian import restrictions probably will not allow that product into the country, and thus it may be necessary to seek another market for the product.

Agency Arrangements

Indian regulations do not permit foreign firms to have marketing subsidiaries in India. While representative or liaison offices are allowed, they cannot generate income. They are permitted to enter into contracts with local firms for procurement of Indian goods for export, a recent concession intended to facilitate Indian exports. Most U.S. companies find that a reputable, aggressive Indian agent is essential to doing business in India. The geographical distance and considerable expense associated with direct marketing do not make it cost effective to operate without agents/representatives in the Indian market.

A local agent should be able to handle all aspects of sales in India, maintain close contact with government officials and decision-makers in industry, obtain advance information regarding potential business, provide competitive assessment, book orders, and handle promotion. For equipment where servicing and training are important elements, the local agent should have the capability to undertake these activities.

The Agent Distributor Service provided through the U.S. Department of Commerce, International Trade Administration district offices for a nominal fee, is designed to assist U.S. firms in locating suitable agents.

Principal-Agent Relationship

The principal-agent relationship is a contract between the two parties based on the terms privately agreed between them, although the agreement is governed by Chapter X of the Indian Contract Act of 1972.

For any premature revocation or termination of this agreement by the principal without just cause, compensation must be paid to the agent. The principal may terminate an agreement prematurely if the agent is guilty of misconduct in the discharge of the agent's duties.

Depending on the terms stipulated in the agency agreement, the agreement may be terminated upon: (1) expiration of the contract term; (2) death or incapacity of the agent; (3) death or incapacity of the principal; (4) completion of the business or (5) impossibility of execution by reason of law or destruction of the subject matter.

Under provisions of the Foreign Exchange Regulation Act (FERA), Indian companies with more than 40 percent foreign ownership must seek clearance from the Reserve Bank of India before concluding agency representation agreements of any type, a process that involves some delay.

Under an exclusive agency agreement, a foreign supplier can neither appoint another agent nor negotiate a deal through another source in the given geographic area during the tenure of the agency agreement. Similarly, the exclusive agent is also prohibited from handling similar competitive products offered by any other supplier. Exclusive agents should possess the marketing capabilities to cover the major industrial centers in India or the U.S. suppliers should appoint several exclusive agents to cover specified geographic regions.

It is advantageous for an agent to maintain an office in New Delhi to be in a position to interact with procurement offices in government agencies and keep abreast of policy changes.

Where the brand name of the commodity is not important, the supplier might prefer to deal on a nonexclusive basis. It is not uncommon for large U.S. conglomerates to appoint different agents for each of their product lines in India.

Sales Commissions

There are no statutory limits on payment of commissions to Indian agents of foreign firms. The rates of commission are negotiated directly between the principal and the agent, but generally vary between 3 and 15 percent, depending on the product and expected value of business. Where the total value of transactions is likely to be large, say $250,000 or above, the commission rate is normally between 3 and 7 percent, whereas it could be higher for smaller transactions. The industry practice for a particular category of products can be a guide to the U.S. firm negotiating a new arrangement.

In some cases, the agent's sales commission is not included in the cost of goods but is paid by the buyer directly to the agent in Indian currency. This practice was introduced to conserve foreign exchange, and sales agents accept it as a standard procedure. In other cases, Indian agents may receive payments in dollar checks, but it is the responsibility of the agent to convert the payment into local currency in conformity with Indian foreign exchange regulations. The Indian Government usually does not allow payment of foreign currency into non-Indian bank accounts for services rendered in India. While most agents are normally reimbursed on the basis of business generated, others opt to delink their remuneration from the volume of business transacted and prefer to negotiate a retainer fee arrangement with their principals. These agents choose to designate themselves as consultants or advisors, but in effect perform the same services as those of any agent.

For several years the Indian Ministry of Defense has prohibited its civilian and military officials from dealing with Indian nationals who are commissioned agents of foreign firms. This policy was formulated in the wake of alleged improprieties in two major defense procurements. No clear guidelines on implementing the rule nor definition of the term "commissioned agents" have been formulated. Consequently, various defense agencies implement the policy in various ways, with some interpretations of the policy more narrow than others. Somewhat of a consensus has emerged supporting the position that an agent is not a commissioned agent if his or her remuneration is not tied to a specific sale, no percentage of sale or bonus is payable, and the individual does not engage in negotiations on behalf of the foreign firm. Some defense agencies refuse to deal with Indian representatives regardless of

title or form of remuneration. Despite some difficulties in the defense area, it is still recommended that U.S. companies have some representation in India to provide market assessments, logistical support, and after-sales contact. Certain other government agencies require that the names of the agents and the commission payable to them be disclosed at the bid stage.

Terms of Payment

U.S. exporters should accept payment only in the form of an irrevocable and confirmed letter of credit, payable in favor of the supplier against presentation of shipping documents through the importer's bank. Expiration dates on letters of credit should coincide with those on import licenses.

Indian Government agencies are initially allowed to open letters of credit with a validity of up to 12 months. Extensions beyond this period are provided depending on the ultimate delivery period. Advance remittances for goods to be imported into India are generally not allowed except in case of commercial imports of small value, where up to $1,000 is allowed as advance payment. For import of books, advance payments up to $2,000 are allowed. For import of capital goods and heavy electrical plants, the Reserve Bank of India may authorize advance payments, but a formal approval is necessary. Indian importers are not usually permitted to enter into deferred payment arrangements with overseas suppliers. A small part of the payment, not exceeding 15 percent, may be withheld towards guarantee of performance, but remittances should be completed within six months from the date of shipment. All other cases of extended payments require prior approval of the Reserve Bank of India.

State Trading

A number of items are imported and exported in large quantities by government trading agencies. This practice of "canalization" was established in part to achieve economies of scale and conserve foreign exchange. Canalized items are listed in the import policy along with the agency responsible for their procurement.

The State Trading Corporation (STC) plays a major role in India's public sector trading activities. Among other items, STC is responsible for the importation of edible oils and oilseeds, certain drugs, chemicals, newsprint, natural rubber, sugar, fatty acids, and acid oils. The STC maintains an office in the United States at 445 Park Avenue, 18th Floor, New York, N.Y. 10022 (Tel: 212-753-0770; Telex: 238930 STC UR cr 12554 ESTICI NYK WU).

The Minerals and Metals Trading Corporation (MMT) is involved in the procurement of fertilizers, all nonferrous metals, steel, pig iron, asbestos, mercury, sulphur, uncut diamonds and gems. The MMTC exports iron ore, manganese ore, chrome ore, bauxite, and coking coal. MMTC is in the process of establishing an office in New York City. The MMTC headquarters is located at Express Building, 9-10 Bahadur Shah Zafar Marg, New Delhi 110001 (Telex: 031-62498 and 031-65158; Fax: 331-0884).

Other major government agencies entrusted with the responsibility for canalized imports are Balmer Lawrie & Co. (paraffin wax), Central Silk Board (raw silk

cocoons), Cotton Corporation of India (raw cotton), ET&T (floppy diskettes/machines), National Film Development Corporation (cinematograph film), Jute Corporation of India (jute pulp and raw hemp), Metal Scrap Trade Corp. Ltd. (waste and scrap metal), Indian Oil Corp. (petroleum products), and Food Corporation of India (cereals).

The Directorate General of Supplies and Disposals (DGS&D) is responsible for the import of some supplies, machinery, and equipment required by agencies of the Indian Government, state governments, municipalities, and various other official and quasi-official agencies. The DGS&D maintains a list of registered suppliers, and some procurement by the DGS&D is reserved for such registered firms. In order to qualify for registration, a foreign firm must have a branch or local agent/distributor in India. The registration list is reviewed periodically. The DGS&D office is located at Jeevan Tara Building, Parliament Street, New Delhi 110001.

The Government of India maintains a Supply Wing at the Embassy of India in Washington which negotiates supply contracts for a broad range of U.S. commodities, equipment and services. The address is: Office of the Director General, Embassy of India (Supply Wing), 2536 Massachusetts Avenue, N.W., Washington, D.C. 20008. India has not signed the MTN Government Procurement Code.

Government Tendering Procedures on Major Projects

All Indian Government procurement from foreign sources is done by inviting and evaluating global tenders (bids). Bid invitations may be either open to bidding by suppliers worldwide or limited, in which case the tender is directed by the issuing organization to select suppliers. Limited tenders are often preceded by an invitation for prequalification of bidders, at which time the concerned government organization gathers basic information on the capabilities and prior experience of prospective bidders in order to assess their technical and financial reliability.

For projects financed by the World Bank or the Asian Development Bank (ADB), competitive bidding procedures in accordance with the bank guidelines are followed. Domestic companies offering indigenous equipment (defined as having at least 20 percent value addition) are accorded a 15 percent price preference (or even higher in some cases, depending on the extent of local value addition) calculated by upward price adjustment of the lowest bidder.

In the case of products and projects where clear and detailed specifications are available, a "single bid system" is followed, i.e, the bidders are required to submit the technical specifications of their products along with a price quote and other commercial terms in a single sealed cover. The technical and commercial offers are evaluated simultaneously.

For large projects involving sophisticated technology and substantial capital outlays, a "two bid system" is often followed where the technical bid and commercial bid are submitted simultaneously in two different sealed envelopes In the first step only technical bids are valuated by a committee on the basis of tender specifications, from which a short-list is prepared. The commercial bids for only the short-listed firms are subsequently opened and evaluated.

Alternatively, the two bid system process may be adopted where only the technical bids are first invited. The offers found satisfactory on technical merits are then short-listed and these companies are asked to submit their price/commercial quotation.

In either case, the purchasing authority invariably enters into negotiations on final price, deliveries, technology transfer, etc. These negotiations may be completed in as little as two to three months or extend over a protracted period with requests for extensions of the validity period of the original price quotation. Once a company has successfully passed the technical and commercial evaluations, it is issued a "letter of intent" by the purchasing authority. A letter of intent is only a prelude to the final purchase order or contract and is not in itself legally binding. U.S. firms should keep this in mind before incurring expenses or making commitments on the basis of a letter of intent.

Indian procurement authorities may seek assurances from foreign vendors that they are willing to transfer technology and know-how to India. This clause reflects the Indian Government's technology transfer priorities and view that foreign firms should consider the undertaking as a long-term business commitment to the Indian marketplace. Technology transfer arrangements are always subject to economic and financial viability, as well as the availability of an acceptable partner.

The Indian Government is not known to have compelled a foreign firm to transfer technology as a condition of purchase, although a definite preference in equipment procurement is made for companies willing to share know-how at a future date.

India's procurement practices are cumbersome and nontransparent. In the awarding of contracts, Indian Government policy favors Indian suppliers over foreign suppliers. Extra patience and persistence are necessary, along with, in most cases, the assistance of an Indian agent or partner.

Sales through Collaboration

Licensing agreements and direct equity investments ("collaborations" in Indian parlance) can serve as an avenue to gain a presence in the Indian marketplace, particularly in industry sectors where the import policy restricts direct imports. In many cases, the item being manufactured in India under any of the above arrangements requires the import of components from the U.S. licensor or collaborator. U.S. firms may also find that the established sales network of the Indian collaborator can be useful in the marketing of other allied equipment produced by the U.S. firm.

Leasing

Approximately 15 small Indian companies are currently reported to be active in the field of equipment leasing. The nascent leasing industry has already undergone a shake-out, with many firms going out of business in the face of the currently high cost of capital. Indian leasing companies are permitted to lease imported equipment in cases where the equipment is imported by the lessor against the import license of the lessee. Cross border leasing, i.e., leasing of assets by a foreign firm to an

Indian company, is not presently permitted, but the Reserve Bank of India is currently drawing up guidelines for such transactions. Exceptions to this policy include leasing of aircraft by Airbus Industries to the government-owned Indian Airlines and the leasing of oil rigs. There are no instances of leasing in other industry sectors.

Advertising and Research

There are over 200 advertising agencies in India, with the majority headquartered in Bombay. The larger advertising firms usually have offices in all the major cities. While the print media is still an important medium of advertising, television has assumed a major role for consumer products. Other advertising media include films, cinema slides, radio, billboards, direct mail, and publicity vans.

Since most U.S. products imported are specialized, advertising is most effectively carried out in trade and technical journals. U.S. firms may also promote their products and services through seminars, product demonstrations, and trade shows.

Many large Indian advertising agencies have U.S. associates. These include:

Clarion Advertising Services Limited, 55B Mirza Ghalib Street, Calcutta 700016 (D'Arcy Masius Benton & Bowles Inc., New York).
Chaitra Advertising Private Limited, 9/11 N.S. Patkar Marg, Bombay 400036 (Leo Burnett, USA).
Everest Advertising Private Limited, Katab Mahal. D. Nauroji Road, Bombay 400001 (Saatchi & Saatchi Worldwide, USA).
Hindustan Thompson, Associates Limited, 30 Bondel Road, Calcutta 700019 (J. Walter Thompson Company, New York).
Karishma Advertising Limited, Nirmal 16th Floor, Nariman Point, Bombay 400021 (Lintas Worldwide, USA)
Rediffusion Advertising Limited, 167 Dr. Annie Besant Road, Worli, Bombay 400018 (Young & Rubicam, New York).
Tara Sinha Associates, B/61 Commercial Center, Safdarjung Enclave, New Delhi 110029 (McCann-Erickson Worldwide, New York).
Trikaya Advertising Private Limited, 130/132 Shahid Bhagat Singh Road, Bombay 400023 (Grey Advertising, USA).
P. K. Swamy Advertising Associates Pvt. Ltd., 604 Mount Road, Madras 600006 (Batten, Barton, Dustin & Osborne - BBDO, USA).
Mudra Advertising Limited, Sardar Patel Nagar, Ahmedabad 380006 (D. D. B. & Needham Worldwide, USA).

Most of the advertising agencies lisced above also have market research service subsidiaries or departments.

Countertrade

India's experience with countertrade largely stems from government-to-government agreements. The bulk of such trade is conducted under India's bilateral trade agreements with the Soviet Union, which provide for payments in nonconvertible Indian

rupees through a central clearing account. Similar agreements exist with some other Eastern European countries. Many Western firms have utilized these agreements to gain access to the Soviet market, producing assembled equipment in India using U.S. technology and components. U.S. firms need to review the evolving laws and regulations covering such sales when considering use of Indian operations as window to the U.S.S.R. and Eastern Europe.

The Minerals and Metals Trading Corporation (MMTC) and the State Trading Corporation (STC) are the major Indian Government organizations agencies directly engaged in countertrade transactions. They are the sole authorized importers of fertilizers, nonferrous metals, palm oil, and newsprint, which constitute the bulk of India's commodity imports.

Notices of global tenders usually include a clause stating that all other factors being equal, preference would be given to companies willing to agree to countertrade. In its countertrade practices, the Indian Government has made the concept of "additionality" a priority, whereby it encourages the trading of products that otherwise might not be exported.

Despite the willingness of some government agencies to encourage countertrade, Indian trade regulations pose a number of obstacles to countertrade activities. In addition to the strict import licensing system, certain Indian commodities are subject to export quotas and licenses or are reserved for state-trading agencies.

STANDARDS AND SPECIFICATIONS

Bureau of Indian Standards

An important aspect of the Indian Government's procurement procedures is the establishment of quality standards with which all suppliers must comply. Several government agencies as well as public and private sector industries have adopted standards established by the Bureau of Indian Standards (BIS), located at Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002. Established in 1947, BIS is an autonomous federation of leading industrial houses, trade associations, technical societies, and professionals. Formerly known as the Indian Standards Institution, the BIS drafts national standards and promotes their adoption; makes recommendations to the government on standards for units of measurement; promotes standardization and quality control in industry; and compiles data and information relating to standards. The draft standards are widely circulated for review by appropriate parties before adoption as approved BIS standards.

Indian manufacturers who meet the BIS standards may carry the "BIS Certification Mark" on their products. To date, over 12,000 standards have been promulgated and published by BIS. The American National Standards Institute, 1430 Broadway, New York, N.Y. 10018 (Tel: 212-354-3300), which acts as a clearing house for foreign standards, can provide copies of BIS standards in the United States.

Tender Specifications

Most Indian Government tender notices carry specifications with which suppliers must comply. In the event that suppliers cannot meet the specifications set forth in the tender documents, they should make clear that an alternate proposal is being offered and provide sufficient justification to warrant an exception to the original specifications.

In submitting bids, U.S. suppliers should follow the system of weights and measurements specified in the tender document whenever possible. The supplier should clearly specify in the offer the system of weights and measurement used. For example, "tons" should be expressed as "metric tons" or "short tons." Suppliers of scientific measuring instruments will normally be required to express the calibration of their equipment in the metric system.

Electrical Current

Although electrical systems are not uniform throughout India, for most cities domestic alternating current is 220 volts, 50 cycles, while industrial current is normally 440 volts, 3-phase, 50 cycles.

Weights and Measures

India uses the metric system of weights and measures. Temperature is expressed in degrees centigrade.

Numerical Units

Indians employ several unique numerical units. One lakh is equal to 100,000 and is written 1,00,000. One crore is equal to 100 lakhs or 10 million and is written 1,00,00,000.

BANKING AND CREDIT

India has a well-established capital market, which includes banks, underwriting agencies, insurance companies, investment trusts, and specialized financial agencies. The operation of the monetary system is governed by priorities laid down in the Indian Government's Five-Year Plans. The government has recently introduced several measures to promote the development of the capital market, including the establishment of the Securities and Exchange Board of India (SEBI) and the Credit Rating Information Services of India (CRISIL).

Currency

The unit of currency is the Indian rupee, which is divided into 100 paise. The plural form of rupee is abbreviated Rs. The rupee is not a freely convertible currency.

The value of the rupee has been linked since September 1975 to a weighted basket of currencies of India's major trading partners, within margins of 5 percent, with the pound sterling as the intervention currency. Although the currencies in the basket are not revealed publicly, they reportedly include the U.S. dollar, the West German mark, the Japanese yen, and the British pound.

In recent years the value of the rupee has been depreciating vis-a-vis the dollar. At the mid-1990, the exchange rate was approximately Rs. 17.00 to $1.00. Current exchange rates can be obtained from the international division of a bank or by checking the rates in the Wall Street Journal or the Journal of Commerce.

The Indian Government does not provide guarantees against inconvertibility.

Exchange Controls

Under its Foreign Exchange Regulation Act (FERA), India has an extensive and complex system of exchange controls that cover virtually all conceivable transactions, including (1) foreign travel by Indian nationals; (2) general exports and imports; (3) the sale of jewelry; (4) commercial and industrial activities of foreign firms and companies; (5) appointment of foreign nationals and companies as agents or technical advisers in India; (6) employment of foreign nationals in India; (7) purchase, sale, or holding of real estate in India by foreign nationals and companies; (8) international credit card facility; and (9) blanket exchange permit schemes to meet overseas expenditures to promote export industries.

While exchange control is administered by the Reserve Bank of India (RBI), routine transactions are normally carried out by designated commercial banks. There are active foreign exchange markets in both Bombay and Calcutta. Authorized dealers in foreign exchange, generally Indian and foreign banks, provide assistance and guidance on exchange control regulations in India.

In recent years, the RBI has adopted procedures to facilitate payments for imports and allow for more foreign travel related to export promotion activities.

Money Supply

Principal factors bearing on the money supply in India, in order of importance, are (1) the government budget deficit, which is financed through the sale of treasury bonds to the Reserve Bank, (2) commercial bank credit to agriculture and industry, including public sector enterprises, and (3) foreign exchange flows.

The volume of the Indian money supply is controlled primarily through administrative limits on the amount of money in circulation and through administered interest rates. Adjustment of the reserve requirement is also an important policy tool. Discount rate adjustments and open market operations are of lesser significance.

Reserve Bank of India

The Reserve Bank of India (RBI) is India's central bank responsible for all monetary and banking activities. The RBI formulates and administers monetary policy, issues rupee notes, plays an important role in the exchange value of the rupee, and represents the Indian Government before the International Monetary Fund (IMF). It further acts as a banker to the Indian Government, state governments, commercial banks and some financial institutions, including state cooperative banks. The RBI monitors all loans in excess of Rs. 50 million ($3 million).

Under the Banking Regulation Act, the RBI enjoys wide powers to control advances by banks and exercise supervision over the functioning of the banking system. The cash reserve ratio (CRR) and the statutory liquidity ratio (SLR) remain the major instruments of credit policy, supplemented by selective credit control measures. In the overall context of national priorities, the RBI uses these instruments to address inflationary pressures, promote effective use of credit, and enlarge the spectrum of borrowers covered by bank credit.

The RBI has recently undertaken a series of measures to (1) provide flexibility in the determination of money market and lending rates of interest; (2) promote bill financing; (3) impart liquidity to short-term money market instruments; and (4) strengthen the financial infrastructure.

Commercial Banks

The banking system in India consists of commercial banks and cooperative banks. The former include foreign banks operating in India and Indian banks in the public and the private sector. Commercial banks constitute by far the largest segment of the banking system. The State Bank of India, its 7 associate banks, and the 20 nationalized banks control approximately 90 percent of the total banking business in terms of deposits as well as bank advances.

The State Bank of India, the largest commercial bank, accounts for roughly 25 percent of the aggregate banking activity in India. Other major commercial banks include Bank of India, Central Bank of India, Bank of Baroda, Punjab National Bank, Canara Bank, and United Commercial Bank.

Until 1969, the important commercial banks, with the exception of the State Bank of India, were under private control. They concentrated on serving the manufacturing and trade sectors in urban areas. In 1969, the government nationalized 14 major commercial banks in a move designed to direct credit flows to priority sectors in rural areas. As part of this effort, the nationalized banks were required to open new branches in rural areas. In 1980, six more private banks were nationalized. The number of bank branches in India has risen rapidly from around 8,000 in 1969 to over 55,000 today. The nationalization has restricted competition, and most banks suffer from low profitability and poor customer service. In an effort to improve their performance, the banks are gradually computerizing their operations.

India's nationalized banks have also moved into major business centers around the world. These banks are expanding their base of activities from financing India's foreign trade and serving Indian businesspeople abroad to such areas as syndicating

offshore loans for domestic Indian companies and financing Indian joint ventures abroad. Currently, 9 Indian banks have 145 branches in 21 foreign countries. Three Indian banks maintain branches in the United States (see "Indian Representation" section).

Development Banks and Specialized Financial Institutions

Commercial banks meet most of the working capital needs of industry. Specialized financial institutions provide local, medium- and long-term financing. These institutions include the Industrial Development Bank of India (IDBI), the Industrial Finance Corporation of India (IFCI), the Industrial Credit and Investment Corporation of India (ICICI), Unit Trust of India (UTI), the Life Insurance Corporation of India (LCI), Industrial Reconstruction Bank of India (IRBI), and the General Insurance Corporation (GIC), as well as a number of state finance corporations and state and industrial investment corporations. Among these institutions, the IDBI provides the largest share of assistance. In loan agreements, financial institutions may include options for appointing directors and may also incorporate a "convertibility to equity at par" option for term lending exceeding Rs. 50 million ($3 million).

Specialized financial services are offered by the National Housing Bank, Housing Development Finance Corporation, the Shipping Credit and Investment Company, the Export-Import Bank of India, and the Discount and Finance House of India.

Merchant Banking

The growth of India's capital markets has led to an increase in merchant banking activity in India. Public sector commercial banks, specialized financial institutions, foreign banks, and private sector financial consultancy firms offer merchant banking services. These organizations, located primarily in Bombay, manage not only share issues and finance syndication for domestic projects, but also undertake preparation of pre-investment feasibility studies; arrange export credit in foreign currencies; and offer advice on financial structuring of overseas investments.

The enforcement of the Foreign Exchange Regulations Act (FERA) (which required many foreign firms to reduce their equity share holdings), the paucity of funds in government financial institutions, and the government's economic liberalization program have combined to create a major boom in the capital market. In 1987 the corporate sector raised Rs. 17.6 billion ($1.04 billion) by way of equity and bonds, compared with Rs. 8 billion ($473 million) in 1983.

Foreign Banks

Foreign banks operating in India at the time of nationalization were not included in the take-over on the grounds that they constituted a part of the international banking system and provided specialized financial services.

Unlike the nationalized banks, the foreign banks were not required to open branches in the rural areas or to lend to high risk or small borrowers at concessionary rates. Foreign banks were expected to become more active in the financing of priority sectors such as small-scale industrial units, professionals and self-employed persons and retail trade. Foreign banks can provide financial assistance to the agricultural sector only indirectly by subscribing to the debentures of land development banks, granting advances to other land development agencies, and financing distribution of fertilizers and agricultural equipment. The banks were also expected to enlarge the scope of their export financing and their foreign currency loans for industrial projects in India.

Disparate treatment of foreign and Indian banks has produced an internal debate regarding the proper role and treatment of foreign banks in India. Although the debate has not been resolved, in 1980 the Indian Government relaxed its attitude and began selectively permitting foreign banks not established in India to open branches and representative offices. The government has contemplated allowing foreign banks to set up joint ventures with Indian banks in new areas such as leasing and factoring services. As of October 1989, there were 27 foreign banks with 136 branches in India, and 21 other foreign representative offices. In addition, three more foreign banks have been granted licenses to open branch offices.

Three U.S. banks--American Express, Bank of America, and Citibank--have full service branch offices in India. Five U.S. banks--the Bank of California, Banker's Trust, Chase Manhattan, Irving Trust, and Manufacturers Hanover Trust--maintain representative offices in India.

Export Rights

The Indian Government does not normally allow clauses in technical collaboration agreements that restrict the right of the Indian licensee to export the products of the collaboration, except to countries where the licensor has existing licensing arrangements or production facilities.

World Bank Groups

The International Bank for Reconstruction and Development (IBRD) commonly known as the World Bank has played a major role in India's development. Since the first loan was made in 1950, over $30 billion in funds have been channeled into India by the Bank and its soft-loan affiliate, the International Development Association (IDA), which serves developing countries most in need of concessional financing. Approximately 50 percent of the loans have gone to the transportation and energy sectors; another 25 percent to agricultural and irrigation projects; 15 percent to industrial and mining sectors (coal, oil, natural gas, steel fertilizers, newsprint and financial institutions); and the remaining 10 percent to human resources. It is likely that the percentage of loans going to the agricultural sector will remain the same, while the shares for human resources, and industry and mining should increase. The transportation and energy sectors will likely receive a declining share of World Bank loans, but should remain the largest recepients of such funds.

The World Bank can exercise influence on various aspects of specific projects, including choice of consultants and specifications for equipment purchases. The bank further maintains international competitive bidding procedures and normally requires that significant procurements be open to international bidding, while allowing local manufacturers a 15 percent price advantage.

Since 1980, the Indian Government has become more liberal in allowing the private sector to tap overseas sources of financing and a number of large loans have been arranged by the International Finance Corporation (IFC), another World Bank affiliate that lends exclusively to the private sector on concessional terms. Projects financed in India include those in the fields of automobiles, iron and steel, cement, chemicals and petrochemicals, and capital markets.

U.S. Export-Import Bank

The Export-Import Bank of the United States (Eximbank) is a U.S. Government agency that helps U.S. exporters compete in India on financial terms that are fully competitive with OECD (Organization for Economic Cooperation and Development) government-supported financing available to their foreign competitors. Eximbank must find reasonable assurance of repayment for transactions it supports in the credit-worthiness of the buyer, the buyer's country, or the guarantee of an acceptable financial institution.

Direct loans are available for projects where U.S. exporters face foreign competition with a government export credit subsidy.

Eximbank and Foreign Credit Insurance Association programs insure exporters against loss in the event of default by the Indian buyer.

Most of Eximbank's assistance for U.S. contracts under $10 million is provided through financial intermediaries. Therefore, commercial banks should be an early point of contact for U.S. exporters or Indian buyers seeking Eximbank assistance.

In May 1989, Eximbank signed a $10 million medium-term credit facility with the Export-Import of India to assist in financing U.S. exports of capital goods and services to export-oriented industries in India. This is the first such arrangement between the Export-Import Bank of India and a foreign export credit agency. Eximbank has authorized a similar $25 million general purpose line of credit to the State Bank of India. These facilities will assist U.S. exporters in providing prompt competitive bids in India with a minimum of documentation. Subloans under these lines are for U.S. contracts of $5 million or less, with a repayment term of five years.

As of April 1989, Eximbank's exposure in India (total authorizations net of repayment) was $138.5 million. Outstanding offers in support of current U.S. bids in India total $224 million. The major portion of Eximbank's long-term loans to India has supported commercial jet aircraft purchases by Air India and Indian Airlines. Eximbank has also assisted sales of electric power equipment, computers, cement, aluminum, fertilizers, petroleum, locomotives, chemicals, and synthetic fibers.

BUSINESS COLLABORATIONS WITH INDIAN PARTNERS

Types of Collaborations

The Indian Government allows foreign corporations to "collaborate"--the term commonly used in India--with Indian businesses in three basic ways. (1) The most common form of collaboration is the licensing of technology , where no equity capital is involved. Under an agreement with a limited time period, the foreign firm can sell its technology and know-how for a lump sum payment and royalties based on sales. The sale of equipment and components can often result from this type of collaboration. (2) A second form of collaboration is a joint venture with foreign equity capital. This type of arrangement accounts for about 15 to 20 percent of all foreign collaborations approved by the Indian Government. The foreign firm may receive lump sum and royalty payments for the technology transfer as well as dividends. These ventures usually involve the sale of equipment and components in the start-up phase. (3) A third form of collaboration involves the outright purchase of technical know-how in the form of designs and drawings.

Beyond these three arrangements, other forms of collaborations are rarely, if ever permitted. Franchising generally does not exist, since Indian policy rarely permits the use of foreign brand names for domestic sales. Production sharing and risk service arrangements are uncommon due to government restrictions and the ready availability of trained professional and technical personnel in India.

General Government Policy

Rapid changes in technology have forced India to abandon its old "do-it-yourself" approach toward the development of technology. India is increasingly looking beyond its borders to obtain technology in sophisticated and high priority areas where Indian skills and technology are not adequately developed. As a result, the number of foreign collaborations in India has been growing substantially, although the basic policy is still restrictive and selective.

The government has considerable discretion in reviewing collaboration applications. Major criteria by which collaboration proposals are judged include the capacity of the collaboration to earn foreign exchange through exports or to save foreign exchange through import substitution, or to develop high technology capabilities in priority industries where technology is not available indigenously.

Financial collaborations, while an important facet of India's effort to attract technology, are less common than purely technical collaborations. In general, the Indian Government prefers licensing arrangements having a limited life span to direct investment. There are restrictions on the level of foreign ownership. The lower the element of foreign equity involved, the greater is the likelihood that the Indian Government will approve the proposal. All investments must be accompanied by the

transfer of technology, unless the investor is a nonresident Indian or resides in one of the Middle East oil producing countries, in which case portfolio investments may be allowed. Individuals of Indian origin who qualify as nonresident Indians (NRI's) may invest in India under a special regime that permits portfolio investment and is less restrictive for direct investment.

TECHNICAL COLLABORATIONS

Normally, licensing agreements, which constitute by far the largest number of collaborations (and where U.S. firms have had the greatest success), involve a combination of patents, manufacturing know-how, technical advice and engineering services, plant construction, and assistance in the purchase of equipment.

Issues of importance to U.S. firms giving consideration to becoming involved in a technical collaboration in India are addressed below.

Intellectual Property Protection

Patents.- Although currently not a member of the Paris Union of the International Industrial Property Convention (Patents and Trademarks), India is considering joining the convention. Under prevailing law, U.S. nationals have the right to apply for, receive, and enforce their rights to protection on the same basis accorded to citizens of India. Indian policy guidelines normally limit recurring royalty payments, including patent use payments, to 5-8 percent of the selling price. Protection of patents is governed by the Patent Act of 1970. Patents are normally granted for a period of 14 years, with the exception of drugs, chemicals, foods, and agricultural pesticides, which are granted protection for a period of only 7 years from the date of filing, or 5 years from the date of sealing--whichever period is shorter. This exception is a problem for U.S. chemical and pharmaceutical companies, as the time needed to complete the required clinical or field testing and begin marketing the product often exceeds the patent protection period of five or seven years.

To be patentable, an invention must be novel, be the result of inventive ingenuity, and have utility. Prior public knowledge or use only in India is prejudicial to novelty. India has an examination procedure for novelty. Applications that are accepted are published and open to opposition for 4 months. Except in the case of foods, drugs, and chemicals, protection can be granted on the basis of process or product, or both. Patents for food, drugs, and chemicals can be granted only for the manufacturing process and not for the product itself. According to Indian Government guidelines, if a licensing agreement includes a patent registered in India, the licensee is entitled to the use of the patent throughout the duration of its term--even if the licensing agreement should expire prior to the expiry of the term of the patent--with no additional payments required. While not a major problem for an equity investor, this can be a potential problem for a firm doing a straight technology transfer because its agreement may not be renewed. Additional information on patent protection is contained in a Patent Office Handbook, issued by the Controller General of Patents, Designs and Trademarks. Applications for patents should be filed with the Controller General of Patents, Design, and Trademarks, 214 Acharya Jagadesh Bose Road, Calcutta, India 700 017.

Trademarks.- The Trade and Merchandise Marks Act of 1958 establishes the rights for the first user of a trademark. No action may be taken against infringement of an unregistered mark. After a mark has been registered, if another party can prove that it was a prior user of the mark, the prior user also may obtain a registration. Unless a trademark is used within five years it will be canceled. "Registered user" provisions exist in Indian trademark law. Trademarks are registered for seven years with renewal of the registration allowed for an additional seven-year period. The use of the word "registered" means registered under the Trade and Merchandise Marks Act, and foreign registrations must be clearly designated as such. Trademark applications accepted for registration are published and open to opposition for a three-month period. India uses the International Trademark Classification System (34 classes). Classes 22-27 on textiles are subdivided into 15 groups.

Applications for trademarks should be sent to the Controller General of Patents, Designs, and Trademarks, Central Building, Maharshi Karve Road, Bombay, India 400 020.

Use of a trademark by a person other than the proprietor is possible, with Indian Government approval. This entails making a joint application to the Register of Trademarks by the owner-licensor and the proposed registered user-licensee. Under the Indian Trade and Merchandise Act, the licensee is then recorded as the registered user of the trademark.

In practice, the Indian Government does not normally approve the licensing or use of foreign trademarks and brand names, on the grounds that they constitute a reputation monopoly and, unlike patents, offer no technology. The Indian Government argues that local companies are placed at a disadvantage when forced to compete with manufacturers of the same product using imported trademarks of long-standing reputation. In special cases, such as that of lifesaving drugs, where there is no competition, or on goods destined for export markets, the use of foreign brand names may be permitted by the Indian Government.

Copyrights.- India and the United States belong to the Universal Copyright Convention. U.S. authors are entitled to automatic copyright protection in India for works first published and copyrighted in the United States. They are simply required to show on their works, name, date of first publication, and the symbol "C" in a circle. The term of copyright for such works, however, shall not exceed that enjoyed by their works in the United States. The Copyright Statute (Art. No. 14) of 1957 provides for copyright protection during the author's life and for 50 years after his or her death. Applications for registration of copyrights are to be filed with the Register of Copyrights, Copyright Office, New Delhi.

Although India's copyright law is considered modern by most observers, the lack of adequate copyright enforcement is a disadvantage to U.S. publishers, software manufacturers, and film distributors interested in pursuing the Indian market.

Services

Technical collaboration agreements may specify separate fees for such services as planning and construction of plant facilities; procurement of plant equipment; training of licensee's employees at the licensor's facilities; and visits by the

licensor's technicians for purposes of construction, supervision, commissioning of the project and training of Indian personnel in India.

For expatriate personnel, payment is normally arranged on a per diem basis plus the cost of travel in India. Reasonable living expenses in India may also be provided by the Indian party.

Know-how

Rights to know-how may be licensed alone or linked to a patent or trademark. However, the Indian Government does not normally allow separate payment for patent or trademark rights.

In order to avoid duplicate or similar imports of technology, the Indian Government normally requires that licensing agreements contain a provision allowing the Indian licensee to sub-license the know-how to other Indian parties on terms to be mutally agreed upon by all concerned parties, including the foreign collaborator and the Indian Government.

Export Rights

The Indian Government does not normally allow clauses in technical collaboration agreements that restrict the right of the Indian licensee to export the products of the collaboration, except to countries where the licensor has existing licensing arrangements or production facilities.

Payments and Remittances

Payments for technology and know-how can be made in the form of a lump sum payment, royalty payments linked to production, or a combination of the two.

Indian Government regulations permit lump sum payments for import of drawings, documentation, and other forms of technical know-how. The amount of such payments is decided by the government based on factors such as the perceived value of the technology and the level of royalties, if any. The total lump sum payment approved by the government is subject to Indian taxes. However, if the foreign firm insists that the lump sum payment be net of all taxes, it is so allowed provided the Indian partner agrees to bear the tax liability. Furthermore, the lump sum payment is split in three equal installments: (1) one-third at the time the agreement is filed with the Reserve Bank of India; (2) one-third on transfer of documentation; and (3) the balance when production commences or four years after the agreement is filed with the Reserve Bank of India, whichever is earlier.

Annual royalty payments are linked to the value of actual production. The rate and payment of royalties is negotiable within broad guidelines, and decided by the government on a case-by-case basis. The usual rate of royalty varies between 3 and 5 percent, although in certain exceptional cases the government may consider payment of royalty up to 7 percent, particularly where transfer of special technology or export sales are involved. Although the government allows itself some flexibility on this

issue, normally technical agreements are limited to a maximum of 10 years. A period of three years is allowed for commencement of commercial production, with royalties payable over the remaining seven years, although in practice, it is generally restricted to five years. The royalty payments are subject to Indian taxes.

The Indian Government does not normally approve extensions or renewals of the agreement on the grounds that the Indian licensee should assimilate the technology within the initial term of agreement. However, in exceptional cases, where sophisticated technology has not been fully absorbed or where new technology is sought, the government may consider granting extensions.

The Indian partner should have the right to produce the products after the expiration of the collaboration agreement with no obligation for any additional payments. Royalties are calculated on the basis of the net ex-factory sales price of the product exclusive of excise duties, minus the cost of components irrespective of the source, including freight, insurance, customs duties, etc. Royalties cannot exceed a ceiling related to the annual registered and licensed capacity of the project plus 25 percent excess production.

The Indian Government does not allow contracts to stipulate minimum annual royalty payments. The total lump sum plus the royalty payment is normally restricted to 8 percent of total expected sales (ex-factory price less the value of imported components) over a period not to exceed 10 years.

The Indian Government allows the remittance of payments made in connection with approved collaboration agreements. The Reserve Bank of India authorizes and clears such remittances after ensuring that any taxes applicable under Indian law have been withheld. To avoid delay in clearance of royalty payments, U.S. firms should make certain that they are properly registered under Indian laws to ensure payment of taxes and should monitor their partner's efforts to submit necessary documents on a timely basis.

FINANCIAL COLLABORATIONS

Indian Government Policies

Foreign investment proposals are reviewed for their impact on India's balance of payments--including contributions to India's exports, degree of dependence on imported inputs and likely remittance outflows--as well as the extent to which investments bring desired technology to India. The broadness of Indian policy guidelines and the case-by-case scrutiny of new investment proposals brings a high degree of subjectivity to the foreign investment approval process.

Foreign collaboration in low priority or nonessential industries is only permitted where the technology is closely held by the foreign entity and thus not available for use on competitive terms; where the technology is required to upgrade existing Indian technology to meet higher domestic requirements or competition in export markets; or where the manufacture of items with foreign technology is linked to substantial exports via buy-back guarantees.

Reasons for Investing

Decisions about investment in India should be guided by such factors as profitability, rate of return, and long-term prospects. Some companies prefer equity participation over licensing and other forms of cooperation in order to ensure managerial control; avoid creating a future competitor out of an Indian partner; and share in the long-term growth of the Indian market.

Most Indian partners enter into collaborations to obtain foreign technology, but are generally not adverse to joint ventures with foreign equity when it ensures a long-term commitment to the venture, particularly where a continuous flow of updated technology is critical to the project's success.

Investment Laws

The Industrial Policy Resolution of 1956 defined the role of the state and private sector in the industrial development of India. It reserved certain industries for public sector ownership and demarcated the areas open to the private. The establishment of a foreign-owned enterprise in India is also affected by the following laws:

(1)
Industries (Development and Regulations) Act of 1951. This statute provides the legislative framework for implementation of the government's industrial policy and specifies the basic policies and procedures for establishing all domestic and foreign industrial undertakings. The act introduced a licensing regime to India allowing the government to direct investment toward desired industries and locations to ensure balanced development.

(2)
Monopolies and Restrictive Trade Practices Act (MRTP) of 1969. This legislation limits the activities of "large enterprises" whose assets (including those of their subsidiaries) exceed Rs. 1 billion ($59 million), or "dominant" firms with assets of more than Rs. 10 million ($590,000) which "produce, distribute, supply, or control" one fourth or more of the market for any particular product or service.

(3)
Foreign Exchange Regulation Act (FERA) of 1973. This law was enacted to "Indianize" and broaden the ownership base of existing foreign-controlled enterprises as well as to limit foreign control and equity in future enterprises.

Equity Participation

The FERA limits foreign equity in most joint ventures to 40 percent. However, exceptions are permitted if: (1) the venture involves the import of advanced technology in high priority sectors (where up to 74 percent foreign equity is permissible), or (2) the venture is export-oriented with 60 percent or more of its output slated for export. In case of 100 percent export-oriented units, 100 percent foreign ownership is permitted. For the hotel and tourism sectors, up to 51 percent

foreign equity is permitted. No foreign equity participation is permitted in the case of new companies intending to engage in internal trading activities.

Foreign equity must be in cash and cannot be contributed by way of machinery and equipment or linked to payments for royalty, know-how, or trademarks. Foreign firms with equity holdings of 40 percent or less are treated as Indian companies and enjoy somewhat greater flexibility than firms with foreign equity beyond the 40 percent level (a FERA company). Foreign equity of up to 40 percent is allowed in existing companies, subject to a monetary limit of Rs. 100 million ($5.9 million).

Protection of Minority Interests

Minority interest in a financial collaboration does not preclude foreign investors from maintaining effective control and influence over the enterprise. Since a 75 percent majority is usually required to introduce changes that vitally affect the company, such as the articles of association, a 26 percent shareholding can be sufficient to protect the minority's interest when shares are widely despersed. In addition, Articles of Association may be drafted to allow a shareholder or board member veto powers. In new companies with foreign equity of 26 percent or more, the foreign collaborator is allowed to appoint one expatriate managing director.

Performance Requirements

Indian investment policy links approval of foreign investment proposals to criteria that promote the transfer of technology to India and increased exports. The Indian Government has also begun to appraise proposals for new projects with foreign collaboration on the basis of net foreign exchange earnings. To implement this policy, the Indian Government has established the following performance requirements:

Import Substitution and Local Content.- Investing firms must procure inputs from local sources where domestic production capacity exists and must shift to domestic procurement when new Indian capacity for the input is created. The Government of India requires a Phased Manufacturing Program (PMP), which limits the volume of direct imports of raw materials and components and provides for increasing levels of locally sourced materials. PMP requirements are established on a case-by-case basis. Normally, indigenization levels of 80 percent for raw materials and components are expected to be achieved within a five-year period. Firms exporting 100 percent of their output are exempt from import substitution and local content requirements and are allowed duty-free imports.

Local Hiring of Employees.- Employment of Indian nationals to the extent possible is a general criterion in evaluating a foreign investment. In exceptional cases, foreign technical personnel may be hired by foreign business ventures in India. The Reserve Bank of India has been delegated powers to approve hiring of foreign technicians for up to 12 months with salaries not to exceed $50,000 in a single calendar year. Nor are payments towards fees and remuneration to a single technician allowed to exceed $500 per day. Proposals for higher salaries or longer durations require the approval of the appropriate administrative ministry.

Technology Transfer/Research and Development.- The Indian partner is obliged to involve foreign collaborators in the process of technology acquisition, absorption, and adaptation, and to submit a timetable for completion of these objectives to the government. To promote this process, the Indian Government authorizes a tax deduction equal to 125 percent of R&D expenditure.

Organization

The most commonly used form of organization employed by foreign investors is the limited liability company, as outlined in the Indian Companies Act of 1956.

A distinction is made in the act between public and private companies. A company is considered private when the right of share transfer is restricted; the number of shareholders is limited to a maximum of 50 (minimum of 2); and the public is not invited to subscribe to its capital. A company not conforming to these conditions is considered public. However, the Indian Companies Act treats all companies where 25 percent or more of the shares are held by public companies, as public companies.

Private companies are not required to publish annual reports and are allowed to issue shares without issuing a prospectus. However, they are also subject to higher tax rates.

Government regulation under the Indian Companies Act is generally more restrictive than in most other countries.

Taxation

Indian corporate taxes are high, usually varying between 50 and 60 percent. However, the tax laws do provide incentives designed to encourage industrial growth, which companies use routinely to their advantage. The laws are complex, and most companies engage expert counsel on tax planning. Tax management has been practiced with such great finesse by large Indian corporations that some have been able to avoid paying any taxes. The Indian Government has amended the tax codes to ensure that companies whose taxable income, after deductions and incentives, is less than 30 percent of their book profits pay taxes on at least 30 percent of the book profits. Indian tax laws do not discriminate against Indian companies with foreign collaboration partners. Tax rates are lowest for widely held companies incorporated in India. There are separate rates on dividends and other remittances to foreign companies (see below).

Royalties and Fees.- Lump sum payments to entities outside India in connection with the supply of data, documentation, drawings, or specifications relating to an invention, model, design, secret formula or process, or trademarks are subject to Indian taxes at the flat rate of 30 percent. Royalties and fees for technical services are also taxed at 30 percent. (These rates may be reduced according to the provisions of bilateral tax treaties.)

Corporate Income Tax.- Indian corporate income tax rates vary with the nature and organization of the company. Factors such as whether the firm is domestic or

foreign, resident or nonresident, widely held or closely held, and the nature of the activity from which the income is derived affect the tax rate. In most circumstances, an Indo-U.S. joint venture company operating in India would be considered a resident domestic industrial company subject to tax rates of between 50 and 60 percent, depending on whether its shares are closely or widely held (widely held companies are public limited companies with shares listed on a recognized Indian stock exchange). The standard corporate income tax is 55 percent.

Dividends.- Dividends paid to nonresident shareholders are subject to taxation at the rate of 25 percent if the nonresident is a corporate body. If the nonresident is not a corporate body, the tax rate is a minimum of 30 percent.

Capital Gains.- Tax rates depend on whether the capital gains are short term or long-term. Gains arising from the transfer of a capital asset (except shares), held for up to 36 months, are defined as short term and taxed as ordinary income. Long-term capital gains are also taxed as income but after certain deductions. The effective rate varies between 40 and 50 percent.

Salaries of Foreign Personnel.- Salaries paid to foreign personnel for services rendered in India are subject to Indian taxation, although foreigners employed by a foreign company who visit India for a short duration may be exempted if (1) the person's stay does not exceed 90 days, (2) the foreign employer is not engaged in any business or trade in India, and (3) the remuneration paid by the employer is not charged as a business expense to the employer's income liable to Indian taxation.

Relief from Double Taxation.- Indian tax laws extend partial credit for foreign taxes paid on income that is also subject to Indian taxes. On September 12, 1989, India and the United States signed a double tax avoidance tax treaty to provide relief from tax liability to both nations. This treaty, which is awaiting ratification and is likely to become law on January 1, 1991, is expected to bolster Indo-U.S. trade and investment.

Tax Incentives

A variety of tax incentives and concessions are available under Indian income tax laws. Tax incentives for new investment and for capital expansion include additional depreciation allowances, investment allowances (20 percent of cost of new plant and equipment), a partial tax holiday for new industrial undertakings (25 percent of net earnings for 8 years), with an additional holiday for units in less-developed or "backward areas" (20 percent for 10 years), and no taxation on projects located in free trade zones for the first 5 years. In combination, the investment allowance and accelerated depreciation can amount to a 125 percent deduction on the cost of plant and machinery.

There are also tax incentives for scientific research and development, as well as for natural resource exploration and development. In addition, there are incentives for foreign nonresident taxpayers (individuals and foreign companies), including concessional rates of 25 percent on dividends and 4 percent on royalties and technical fees. The Indian Government recently announced that all export earnings will be tax free.

Free Trade Zones

In order to promote exports, six free trade zones (FTZs) have been established in India. Of the six FTZs, the Kandla Free Trade Zone (KAFTZ) in the state of Gujarat and the Santacruz Electronic Export Processing Zone (SEEPZ) in Bombay are generally considered to be successful. The other zones--located at Madras in Tamil Nadu; Cochin in Kerala; Falta, near Calcutta; and NOIDA, near New Delhi--have yet to meet expectations. A seventh FTZ, yet to be established, was approved by the Government of India in March 1989 for Vishakapatnam in Andhra Pradesh.

Facilities and incentives available in the FTZs include (1) the possibility for 100 percent ownership; (2) freedom to import equipment and materials under OGL; (3) permission to sell 25 percent of output in the domestic Indian market (import license required); (5) a five-year tax holiday; and (6) simplified customs procedures with a single point clearance.

Repatriation of Capital and Remittance of Profits

Capital, including any appreciation, can be repatriated at any time. Funds can be repatriated in one lump sum, except for large amounts, which the Reserve Bank of India prefers to spread over two or three years. Application for repatriation must be made to the Reserve Bank of India. India has never defaulted on its policy of allowing capital to be repatriated, even in times of serious foreign exchange shortages.

Equity holdings of the foreign partner can be sold outside India without the Reserve Bank of India's permission. The remittance of profits earned in India by subsidiaries or ventures of foreign firms is freely allowed to the parent company, albeit after payment of taxes and approval of the RBI, which is rarely withheld.

APPROACHING THE INDIAN MARKET

Developing a Collaboration

Doing business in India, as elsewhere, requires an understanding of the country's cultural, economic, and commercial characteristics. The following suggestions may facilitate the collaboration process.

(1) Do Your Homework. Learn about Indian Government policies and the Indian business environment before entering the market. Advance preparation will help you know what to expect as you proceed.

(2) Take a long-term view of your involvement in India. In general, companies that have approached India with a long-term commitment to develop the Indian market are the most positive about their experiences there.

(3) Recognize the importance of finding a reputable and compatible partner. This cannot be overstated. Because of the distance and complexities involved in doing business in India, U.S. firms have found it essential to have an Indian agent or partner. Time and care should be taken to ensure that the Indian company is financially sound, technically capable, and has a compatible approach to doing business.

(4) Be prepared to establish, at the senior level, a close personal relationship of mutual respect and confidence. Business in India is highly personal. U.S. firms have found that maintaining close contacts through the exchange of visits by senior executives helps build understanding and mutuality of interests.

(5) Be flexible during the negotiations, not legalistic. However, it is wise to obtain sound legal and tax advice before negotiating any agreement. Be prepared to leave something on the table and ensure that the agreement is fair to both parties.

(6) Be prepared to offer competitive technology packages with close technical follow-up. Price and the technical assistance provided to transfer know-how are critical factors.

(7) Be patient. Make a realistic assessment of the steps and time involved in finalizing a collaboration and receiving payment. In consultation with the Indian partner, establish a time schedule for the steps in the approval process and monitor the partner's progress at each step along the way. Recognize the fact that the Indian Government moves at its own pace, and that communications within India are difficult. Accept delays when they are inevitable.

(8) Do not become involved in corruption.

Identifying a Partner

The route taken to identify a partner varies. An existing sales or agency relationship can evolve into a collaboration. In other cases, Indian firms have contacted U.S. firms directly after doing their own research to identify sources for the technology they desire. Others may contact the U.S. Embassy or Consulates to assist in the search for an appropriate partner. Regardless of the approach, the wise U.S. executive will evaluate the alternatives thoroughly before choosing a partner.

The first step in choosing a partner involves an evaluation of the managerial, financial, technical, and marketing capabilities of the Indian company. Second, the U.S. company should evaluate the Indian partner's ability to obtain approval for the projects to be undertaken (which is based ideally on a proven track record). U.S. firms will also want to know if their potential partner already has preliminary Indian Government approval, granted in a letter of intent, to enter the sector under consideration. Third, the U.S. company should assess the chemistry between the two partners. Do they "talk the same language?" Do the parties share a sense of integrity? Can they develop mutual confidence and respect?

The U.S. Department of Commerce's Agent/Distributor Service (ADS), described earlier, can also be used to locate a suitable Indian firm, which may also qualify as a suitable partner for a joint venture or a licensing agreement.

Negotiating the Agreement

In developing a technology package, the U.S. collaborator should keep in mind several principles. (1) Offer the technology that best meets the needs of the project. In some cases, this may mean state-of-the-art technology, although in other instances the technology will more likely be mid-level. In no case will obsolete technology be accepted. (2) If possible, offer a continuous flow of technology. (3) Arrange to provide continuing technical support to ensure the successful transfer of technology. (4) Price the technology competitively. Indian companies shop the world for technology, and price is an important factor. (5) If possible, enhance the agreement through a buy-back arrangement or assist the partner in developing export markets. This provision earns foreign exchange to help pay for the technology transfer, an increasingly important factor in the Indian Government's consideration of collaboration proposals.

Obtaining Indian Government Approval

Obtaining Indian Government approval for a collaborative venture involves a lengthy and complex licensing process. Approval of such ventures is contingent upon satisfying numerous government conditions, which often seriously erode the attractiveness of pursuing investment projects. Because of the extensive bureaucratic process involved, it normally takes two to three years to complete all the required procedures needed to acquire final Indian Government approval for an investment project.

The Indian Government has introduced certain measures to streamline the process for securing approvals for foreign collaborations. The administrative ministries that oversee various industries have been authorized to issue approvals in cases where: (1) no foreign equity is proposed, (2) the proposal does not envisage extension of the original collaboration agreement, and (3) the foreign exchange outflow from combined total lump sum payments and royalties, if any, does not exceed Rs. 10 million ($590,000).

In all other cases, applications for foreign collaborations should be made to the Secretariat for Industrial Approvals (SIA), Foreign Collaboration I Section, Department of Industrial Development, Ministry of Industry, New Delhi, in the prescribed form and submitted with 16 copies.

While the Indian partner is responsible for applying for Indian Government approvals, U.S. companies should understand the process, establish a realistic time schedule in consultation with the partner, and monitor progress. Often at various stages of screening, the Indian and U.S. firms may be asked to either provide supplementary information, negotiate some aspects of the proposal, or both.

The Indian Government permits foreign companies to file an application for an industrial license/foreign collaboration in the company's own name, without tying with an Indian firm or forming a company in India. In such cases an "in principle" approval is issued which can later be transferred to a company incorporated in India to execute the project.

Steps in the approval process for a new foreign venture generally include the following:

(1) Obtaining a Letter of Intent.

(2) Securing Indian Government approval of the foreign collaboration agreement.

(3) Obtaining a license for the import of capital goods, if required, under the Imports and Exports (Control) Act of 1947. If the value of imported capital goods exceeds Rs. 10 million ($590,000), an application in the prescribed format is to be made to the Secretariat for Industrial Approval.

(4) Obtaining clearance under the Monopolies and Restrictive Trade Practices Act (MRTP), if applicable.

(5) Formation of the joint venture company under the Companies Act of 1956.

(6) Making arrangements for the issue of capital and applications to financial institutions for required capital.

(7) Securing the consent of the Controller of Capital Issues for the issue of capital stock under the Capital Issues (Continuance of Control) Act of 1947, where the proposed issue exceeds Rs. 5 million ($300,000).

(8) Conversion of the letter of intent into an industrial license.

(9) Permissions required under the Foreign Exchange Regulation Act of 1973 for the allotment of stock and foreign ownership of stock.

To expedite the approval process for items 1 through 4 above, a composite application for approval of the four items can be submitted at the same time. The SIA will then process the application through the Project Approval Board (PAB) and the various committees under the PAB whose approval is also required. Projects with investments in excess of Rs. 500 million ($30 million) are cleared by the Cabinet Committee on Economic Affairs. Under existing procedures, all letters of intent for foreign collaborations involving import into India of capital goods are supposed to be issued within 60 days. In cases requiring approval under the MRTP Act, the clearance is to be given in 90 days.

The SIA evaluates investment proposals to ensure that they adhere to development and sectoral objectives and conform to prevailing Indian import policies and mandatory use of Indian consultancy services. Prevailing policy has generally called for maximum use of locally-produced raw materials, components and capital equipment. Foreign investors are explicitly prohibited from binding the Indian joint venture to use of imported inputs whether or not they can be produced domestically at the time

the investment agreement is signed. Simultaneous review by the Ministry of Finance requires that the foreign exchange outflows of the investment be balanced by foreign exchange inflows. This requirement can also lead to pre-conditioned import restrictions as well as export commitments. In cases of import substitution or introduction of priority technology, the foreign exchange balance requirement may be waived.

The SIA may impose conditions on license approvals. However, if the Indian collaborator can convince the SIA that the conditions it wishes to impose are unreasonable, the SIA may reconsider the conditions. If the terms of the collaboration as approved by the SIA are acceptable to the joint venture partners, then the SIA will issue the foreign collaboration approval letter.

This letter, now issued with an initial validity of two years, forms a part of the foreign collaboration agreement signed between the Indian and foreign party. Copies of the collaboration agreement are sent to the appropriate administrative ministry, as well as the SIA, the Department of Scientific and Industrial Research, and the Department of Economic Affairs. Copies of the agreement are also transmitted to the Reserve Bank of India on the basis of which remittances to the foreign collaborator are permitted.

After issuance of the approvals on the composite application for items 1-4 listed on previous page, the parties involved proceed to complete the arrangements listed in items 5-7 relating to the formation and financing of the joint venture company. Upon fulfillment of the conditions incorporated in the letter of intent (items 1-7), the letter of intent is converted into an industrial license by the administrative ministry. An application for this purpose is also made through the SIA.

Finally, applications must be made to the Reserve Bank of India under the provisions of FERA for the allotment of stock to a foreign investor, for the export of any securities, and for any remittances of funds that are to be made as a result of the collaboration. These approvals are formalities and are generally automatically granted.

Establishment of a Liaison Office in India

Establishment of a liaison office in India requires prior approval by the Reserve Bank of India. The bank defines a liaison office as one which restricts its activities to the transfer of information and which does not engage in any trading, commercial, or industrial activity. Offices may be opened for the purpose of posting a representative, or in connection with a specific project or contract. The liaison office must certify that no commercial transactions will take place and that all expenses will be met from abroad through normal banking channels. In some cases, liaison offices will be permitted to place orders for exports if such activity is authorized by the company's head office. Branches and subsidiaries of foreign companies are not permitted.

Application for setting up a liaison office must be made to the Reserve Bank of India under Section 29(1)(a) of the Foreign Exchange Regulation Act. The application procedure is relatively simple, but the applicant should be aware that final approval

can be subject to delays. A completed application, with all required documents attached, should receive approval in three to four months. Applicants commonly seek professional assistance from local attorneys with expertise in Indian corporate law.

Documentation to be submitted with the application includes:

(1) Shareholder information.

(2) Description of company activities.

(3) Location of the liaison office and description of services to be performed by the office.

(4) Estimated annual expense of office and terms of meeting those expenses.

(5) Information on foreign representatives to be posted at the office.

(6) Copies of employment contracts for all Indian employees.

The duration and terms of Reserve Bank approval are discretionary. Upon receipt of approval, an account may be opened with any Indian bank. Thereafter, the Reserve Bank of India will require annual certification that no income was earned by or accrued to the office.

A liaison office cannot acquire, transfer or dispose of any immovable property in India without permission from the Reserve Bank. Office space can be leased on a contractual basis for five years or less. In most cases, office equipment must be purchased locally. Imported equipment is subject to Indian import policy regulations, including import licensing, customs clearance, import duties, and foreign exchange clearance.

The office may employ both foreign nationals and Indian nationals. Indian nationals must be employed on a contract basis, the terms of which must meet government requirements on minimum wage, national holidays and working hours. An office employing more than 20 Indian nationals must make payments into the Indian Provident Fund system and to State (medical) Insurance. Coverage for other insurance needs is at the discretion of the company.

There is no limit to the number of foreign nationals that may be employed by an office. The Indian Embassy is authorized to grant an initial six-month labor visa for foreign workers. Subsequent extensions are issued by the Home Ministry and are usually valid for one year or longer.

GUIDANCE FOR BUSINESS TRAVELERS

Entrance Requirements

Visas are required for all travel to India by U.S. citizens. Of the six types of

visas (Tourist, Entry, Transit, Student, and Visas for Research Scholars and Missionaries), the Entry and Transit Visas are commonly associated with business traveling. Visas can be obtained from the Indian Embassy in Washington, D.C. or any of three Indian consulates in Chicago, New York City, and San Francisco. (See addresses under "Sources of Economic and Commercial Information.")

The Entry Visa is valid for a single entry visit of up to three months and is issued for both business and tourist purposes. An Entry Visa is obtained with a valid U.S. passport, completed and signed application forms (Indian Government), and three passport-sized photographs signed on the back. A Transit Visa is valid for a single journey and a maximum stay of two weeks. It is obtained with a valid U.S. passport, one completed application form, and two photographs.

The fee for persons holding U.S. passports is $15.00. Information on fees applicable to other nationalities is available from India's embassy or consulates. If the passport is to be returned by mail, a self-addressed envelope and mailing charges should accompany the visa application. Mailing charges are approximately $4.15 by certified mail plus 50 cents for each additional passport mailed under the same cover. Fees are subject to change without notice. Visa fee and mailing charges should be paid by money order, bank draft or certified check to the order of the Consulate General of India, if sent by mail. Fees may be paid in cash when applications are presented in person.

Persons entering India from, or through, an area infected with yellow fever are required to be in possession of a valid certificate of vaccination against yellow fever. Currently, no other health certificates are mandatory, but immunization against cholera, typhoid, meningitis, tetanus, and hepititis is advised. U.S. passports should be valid for a period of at least six months from the date of the visa application.

Although most visa applications are processed within 24 hours, certain applications may have to be referred to the Government of India in New Delhi for approval.

Business and Social Customs

Business is ususally conducted at a much more leisurely pace than Americans are accustomed. An exchange of pleasantries and a cup of tea are preludes to most business conversations. American business travelers need to be aware of, and sensitive to, the hospitality associated with doing business in India.

A few basic religious beliefs and social customs merit brief mention. Hindus revere the cow, and thus do not eat beef. Many Hindus are vegetarians, although their religion does not forbid the consumption of other forms of meat. Alcohol is consumed (if at all) in moderation by Hindus, while orthodox Muslims do not drink. Muslims are also forbidden by their religion to eat pork. Normally, Indian women do not shake hands, but instead prefer the namasthe where the palms of the hands are pressed together, pointing upward, with head slightly bowed.

Health Precautions

Travelers should avoid unboiled drinking water, including ice made from unboiled water. Bottled soda water, soft drinks, beer, hot tea, and coffee are considered safe to drink. Salads, unpeeled raw vegetables, and fruits and other uncooked foods should be viewed with suspicion. All meats should be ordered well-done. For the traveler whose stay is short, a good rule of thumb (although perhaps impractical) would be to avoid all uncooked foods.

The jet lag associated with the extreme time difference between the United States and India is likely to affect most travelers. It is generally a good idea not to over-program one's schedule during the first couple of days.

Holidays and Working Hours

Indians celebrate New Year's Day, Republic Day (January 26), Independence Day (August 15), Mahatma Gandhi's Birthday (October 2), and Christmas Day. In all, there are 49 national, regional, and religious holidays. While all of these are not observed nationwide, a certain number are declared central government holidays at the beginning of the year. Others may be observed by only a particular religious community. State governments announce their own list of holiday observances. Travelers should check with the Indian Embassy or Consulates in advance of their departure regarding holiday schedules.

The working hours for most Indian Government offices are 10:00 a.m. to 1:00 p.m. and 2:00 p.m. to 5 p.m., Monday through Saturday, except the second Saturday of each month. Typically, business offices are open Monday through Friday, from 9:30 a.m. to 1:00 p.m. and 2:00 p.m. to 5:00 p.m. Most business executives prefer business appointments late in the morning or in the afternoon. The official shopping hours are 9:30 a.m. to 7:00 p.m., with a lunch break from 1:30 to 2:30 p.m.

The U.S. Embassy in New Delhi is open Monday through Friday, from 8:30 a.m. to 5:30 p.m. The American Consulates in Bombay, Calcutta, and Madras maintain similar working hours.

Climate and Dress

The climate in India varies from tropical in the south to temperate in the north. There are three well-defined seasons throughout most of the country: a cool season from November to March, a dry, hot season from March to June, and a hot, rainy (southwest monsoon) season during the remainder of the year. Southeastern India is subject to a second rainy period (northeast monsoon) between November and January. In most parts of India, for most of the year, light loose-fitting clothing is recommended. The northern winters require warmer dress such as wool clothing, and a winter coat may even be necessary in the evenings. In the north of India, during hot weather, the bush shirt generally replaces more formal attire, both for office wear and evening occasions.

Hotels and Dining

Most cities frequented by foreign travelers have modern, air-conditioned hotel facilities. Hotels are classified on the one-to-five star system. As hotel space is sometimes limited, it is advisable to make hotel reservations in advance. Foreign visitors are required to pay hotel bills in foreign exchange, converted into rupees in the hotel or through authorized banks.

The major hotels normally serve Western-style meals in addition to traditional Indian dishes. Indian cuisine is generally more heavily spiced in the south than in the north.

Travel

In addition to PAN AM Airways, 30 other airlines provide regular service to India. Indian Airlines, a government-owned carrier, operates domestic air service and links the principal industrial and tourist centers within India. A second airline, Vayudoot, provides service to more remote destinations throughout India. International airports are located at Bombay, Calcutta, Madras, New Delhi, and Trivandrum.

International passengers are required to pay a Rs. 50 ($3) departure tax when traveling to neighboring countries (Afghanistan, Bangladesh, Burma, Nepal, Pakistan, and Sri Lanka) and Rs. 300 ($18) for travel to all other international destinations.

The Indian Government maintains tourist offices in Chicago, Dallas, Detroit, Los Angeles, Miami, New York, San Francisco, and Washington, D.C. All of these offices can assist American travelers with information in advance of departure.

Local Time

India is 10-1/2 hours ahead of Eastern Standard Time (9-1/2 hours ahead of Eastern Daylight Savings Time).

Languages

While Hindi, written in the Devanagri script, is the official language of India, government publications, many newspapers and periodicals and other publications are written in English as well. There are 14 other major languages and numerous dialects. Almost all Indians in government and business can speak and write English, and companies doing business overseas almost without exception use English in correspondence and documentation. While the use of English is widespread, there may be some differences in choice of vocabulary or expression.

SOURCES OF ECONOMIC AND COMMERCIAL INFORMATION

Indian Representation

India is represented in the United States by its Embassy at 2107 Massachusetts Avenue, N.W., Washington, D.C. 20008 (Tel: 202-939-9806). Indian Consulates General are located in three U.S. cities:

540 Arguello Boulevard
San Francisco, California 94118

230 North Michigan Avenue
Chicago, Illinois 60611

3 East 64th Street
New York, N.Y. 10021

Honorary Consuls are located in five other U.S. cities: Honolulu, New Orleans, Cleveland, Houston, and Seattle.

A number of quasi-governmental Indian organizations maintain offices in the United States for the purpose of promoting Indian exports. U.S. firms may freely contact any of the following:

Trade Development Authority of India
445 Park Avenue, 18th Floor
New York, N.Y. 10022
Tel: (212) 753-6655

Engineering Export Promotion Council of India
333 North Michigan Avenue
Chicago, Illinois 60601
Tel: (312) 236-2162

Electronics Trade and Technology Development Corp. Ltd.
3001 Redhill Avenue
Esplanade 1, Suite 219
Costa Mesa, California 92626

Handicrafts and Handloom Exports Corp.
29 West 38th Street
New York, N.Y. 10018

The State Trading Corporation, Tea Board of India, Jute Manufacturers Development Council, and the Marine Products Export Development Authority all maintain offices in New York City.

The Indian Investment Center (IIC) maintains offices and a library at 445 Park Avenue, New York, N.Y. 10022, Tel: (212) 753-3600. It promotes the establishment of joint ventures and technical collaborations in India, as well as third-country

ventures between Indian and foreign entrepreneurs. The IIC also provides information on Indian Government investment policies and opportunities.

Three Indian banks operate in the United States. The State Bank of India has offices in New York City, Chicago, Los Angeles, and Washington, D.C. The Bank of Baroda has an office in New York City, and the Bank of India maintains offices in New York City and San Francisco.

U.S. Representation

The United States Embassy in India is located at:

Shanti Path
Chanakypuri
110 021 New Delhi
Tel: 600 651
Telex: 031-65269 USEM IN
Fax: 687 2391

U.S. Consulates General are located in three cities:

Lincoln House
78 Bhulabhai Desai Road
400 0926 Bombay
Tel: 822 3611/8
Telex: 011-75425 ACON IN
Fax: 822 0350

5/1 Ho Chi Minh Sarani
700 071 Calcutta
Tel: 44 3611/6
Telex: 02 5982

Mount Road 6
600 006 Madras
Tel: 473 040
Fax: 825 0240

Trade Sources

The Indo-American Chamber of Commerce (IACC) was established in 1968 to promote the development of trade and joint ventures between U.S. and Indian businesses. It actively participates in a broad range of activities, including conferences and trade promotion programs. It also publishes monthly newsletters and studies providing information concerning trade and investment opportunities. In addition, the chamber makes recommendations to the Governments of India and the United States on matters pertaining to Indo-American commercial relations.

The IACC maintains a library providing reading room facilities to visiting businesspeople and scholars. The reference section of the library contains manufacturers' directories, trade directories, handbooks, manuals, statistical reports and other publications, Indian and American.

The main office of the IACC is located in the Vulcan Insurance Building, Veer Nariman Road, Churchgate, P.O. Box 11057, Bombay 400 020. The chamber has regional offices in Ahmedabad, Bangalore, Calcutta, New Delhi, Madras, Hyderabad, and Varanasi.

Other chambers of commerce and trade associations in India also offer sources of business and trade information. The leading trade organizations include: the Confederation of Engineering Industries (CEI), located at 23,26 Institutional Area, Lodi Road, New Delhi 110 003; the Federation of Indian Chambers of Commerce and Industry (FICCI), located at Federation House, Bazar Marg, New Delhi 110 001; and, the Associated Chambers of Commerce and Industry of India (ASSOCHAM), located at Allahabad Bank Building, 17 Parliament Street, New Delhi 110 001.

Other important chambers include the International Chamber of Commerce (Indian National Committee, Federation House, New Delhi 110 001); the Bombay Chamber of Commerce and Industry (Mackinnon Mackenzie Building, Ballard Estate, Bombay 400 038); and the Indian Merchants Chamber (76 Veer Nariman Road, Bombay 400 020).

The India-U.S. Joint Business Council, founded in 1976, sponsors research and information programs designed to assist in identifying and developing specific trade and investment opportunities, and seeks to stimulate discussion of Indo-U.S. policy issues. Business Council meetings are held on an annual basis, alternating between New Delhi and Washington. The U.S. side of the council, which operates under the aegis of the U.S. Chamber of Commerce, is located at 1615 H Street, N.W., Washington, D.C. 20062.

The India Chamber of Commerce of America, Inc., founded in 1939, organizes workshops and seminars on topics pertaining to Indo-U.S. trade and investment. It is located at 445 Park Avenue, 18th Floor, New York, N.Y. 10022. A similar organization, the Indo-U.S. Business Association, is active in Southern California. Its address is P.O. Box 54549, Los Angeles, California 90054.

BIBLIOGRAPHY

Indian Publications

Business India (a biweekly magazine), Wadia Building, 17/19 Dalal Street, Fort, Bombay 400001, Tel: 274 161, Telex: 11 3557 BZIN IN.

Business World (a biweekly magazine), 145 Atlanta, 209 Ceremonial Boulevard, Nariman Point, Bombay 400021, Tel: 260 268.

Cen-Cus Customs Tariff, Cen-Cus Publications, Sujaan Book Agency, C-7 Main Market, Vasant Vihar, New Delhi 110057, Tel: 673 313.

Foreign Collaborations in Industry (two volumes), by K.V. Iyer & L.R. Kumar, Indu Publications, T-13 Green Park Main, New Delhi 110016, Tel: 669-414.

Guide on Foreign Collaboration, Policies & Procedures, by Rajiv Jain, India Investment Publication, S.S. Books Associates, 402 Kucha Bulaqi Begum, Dariba Kalan, Delhi 110006, Tel: 261 827.

India Today (a biweekly magazine), F-14 Connaught Place, Middle Circle, New Delhi 110001 331 3076, Telex: 31 62634 INTO IN.

Kothari's Industrial Directory of India, Kothari Enterprises, Post Box No. 3309 Nangambakkam High Road, Madras 600 034.

Times of India Directory & Yearbook, The Times of India Press, Dr. D.N. Road, Bombay 400001, Tel: 268 271.

Indian Government Publications

Commercial Bulletin, Commerce Wing, Embassy of India, 2536 Massachusetts Avenue, N.W., Washington, D.C. 20008.

Economic News, Economic Wing, Embassy of India, 2107 Massachusetts Avenue, N.W., Washington, D.C. 20008 Tel: (202) 939-7050.

India 1989, (a reference annual), Publications Division, Ministry of Information and Broadcasting, Government of India, New Delhi.

India News, Information Service, Embassy of India, 2107 Massachusetts Avenue, N.W., Washington, D.C. 20008 Tel: (202) 939-7048.

Indian Bookdealers

Bookwell 2/72 Nirankari Colony, New Delhi

International Book Links, 601 Churchgate Chamber, 6 New Marine Lines, Bombay 500020

Jain Book Agency, C-9 Prem House, Connaught Place, New Delhi 110001, Tel: 350805

Kitab Mahal, State Emporium Building, Kharak Singh Marg, New Delhi 110001, Tel: 343 708

Publications Division, Government of India, Ministry of Information and Broadcasting, Patiala House, New Delhi 110001, Tel: 387 983.

U.S. Publications

American Firms in India, World Trade Academy Press, 50 E. 42nd Street, New York, N.Y. 10017, Tel: (212) 697-4999.

Commercial, Business and Trade Law: India, Oceana Publications, 75 Main Street, Dobbs Ferry, N.Y. 10522, Tel: (914) 693-5956.

Doing Business in India, Price Waterhouse, 10 Rockefeller Plaza, New York, N.Y. 10020, Tel: (212) 489-8900.

Exporters Encyclopedia, Dun and Bradstreet.

India, A Guide for Businessmen and Investors, Coopers & Lybrand, 1251 Avenue of the Americas, New York, N.Y. 10020, Tel: (212) 536-3257.

India Briefing 1989, Edited by Marshall M. Bouton, The Asia Society, Westview Press, 5500 Central Avenue, Boulder, Colorado 80301.

India's Industrialists, by Margaret Herdeck and Gita Piramal, Three Continents Press, 1636 Connecticut Avenue, N.W., Washington D.C. 20009, Tel: (202) 332-3885.

Taxation in India, Deloitte, Haskins and Sells, 1114 Avenue of the Americas, New York, N.Y. 10036, Tel: (212) 790-0500.

Business Asia (weekly report), Business International Asia Pacific Ltd., 11/F Mount Parker House, Cityplaza, Taikoo Shing, Hong Kong, Tel: 5-670491, Telex 74364 BUSIN HX.

New Corporate Strategies for India's Changing Environment, Business International, Inc., 215 Park Avenue South, 15th Floor, New York, N.Y. 10003, Tel: (212) 460-0600.

India Market Atlas, Business International, Inc., 215 Park Avenue South, 15th Floor, New York, N.Y. 10003, Tel: (212) 460-0600.

International Trade Reporter--Export Shipping Manual, Bureau of National Affairs, Inc., 1231 25th Street, N.W., Washington, D.C. 20037, Tel: (202) 452-4200.

Investing, Licensing and Trading Conditions Abroad (India Section), Business International, Inc., 215 Park Avenue South, 15th Floor, New York, N.Y. 10003, Tel: (212) 460-4200.

Indo-American Business Times (a monthly Magazine), P.O. Box 33364 Farragut Station, Washington, D.C. 20033, Tel: (202) 887-0186.

U.S. Government Publications

Background Notes, India, U.S. Department of State, Washington, D.C. 20520.

Business America (a biweekly magazine on international trade), Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Foreign Economic Trends and Their Implications for the United States: India, Publications Sales Branch, Room 1617M, U.S. Department of Commerce, Washington, D.C. 20230.

OEL Insider (newsletter), Office of Export Licensing, Bureau of Export Administration, U.S. Department of Commerce, Washington, D.C. 20230, Tel: (202) 377-8532.

Commercial Information Management System

The International Trade Administration manages the collection and dissemination of its international trade information through the Commercial Information Management System (CIMS), a worldwide, computer-based, trade information network. CIMS links the information resources of our Foreign Commercial Service posts and U.S. District Offices to provide in-depth and timely material helpful in marketing products in India.

Market Research

CIMS includes specific information on the markets for selected product groups in India, as well as descriptions of general Indian market conditions. The following market research articles, obtainable from Department of Commerce District Offices, are in the CIMS database:

Airconditioning and Refrigeration Equipment - 4/88
Alternative Energy Equipment - 7/87
Avionics and Avionic Support - 11/89
Biotechnology Products and Processes - 9/89
Ceramics - 7/87
Chemical & Petrochemical Plant, Machinery and Equipment - 7/90
Cigarette Machinery - 8/87
Computers, Peripherals and Add-ons - 7/87
Computer Software and Services - 7/90
Construction and Earthmoving Equipment - 3/88
Consulting Engineering Services - 9/87
Electric Motors - 8/87
Electronics Industry Production and Test Equipment - 6/87
Flexible Manufacturing Systems - 8/87
Food Processing and Packaging Equipment - 10/89
Laboratory, Scientific and Analytical Equipment - 8/87
Leather Product Machinery - 3/89
Machine Tools and Metalworking Equipment - 7/87
Marine Trawling and Seafood Processing Equipment - 4/89
Materials Handling Equipment - 7/87
Medical and Healthcare Equipment - 8/87
Mining and Excavation Machinery 4/89
Oil and Gasfield Equipment - 9/89
Packaging Equipment - 7/87
Paper Industry Machinery - 8/87

Pharmaceuticals - 9/87
Plastics Processing Machinery - 2/90
Pollution Prevention and Control Equipment - 7/90
Power Generation, Transmission and Distribution Equipment - 9/89
Printing and Graphic Arts Equipment - 7/86
Process Control Instruments - 5/89
Pumps, Valves and Compressors - 7/90
Railway Expansion and Modernization Equipment - 7/89
Semiconductors - 4/90
Shipbuilding and Port Maintenance Equipment - 9/87
Telecommunications Equipment - 1/89
Textile Machinery, Spares and Accessories - 9/89
Used Industrial Plant Equipment and Machinery - 9/87

Foreign Traders Index (FTI)

Using CIMS, the District Offices of the International Trade Administration of the U.S. Department of Commerce can provide targeted lists and mailing labels of Indian importers. CIMS can also provide names, addresses, and other information on import agents and end-users. Indian export contacts can also be targeted by product and service type, relative size in the market, location, and other factors.

MARKET PROFILE - INDIA

FOREIGN TRADE

Imports - 1988, $19.0 billion; 1987, $17.1 billion. (U.S. exports to India: 1988, $2.5 billion; 1987, $1.5 billion.) Principal suppliers (1986): Japan (12.9 percent), United States (9.8 percent), United Kingdom (9.6 percent), OPEC (8.8 percent), and USSR (5.3 percent). Major imports: petroleum products, foodstocks, fertilizers, iron and steel, nonferrous metals, edible oils, uncut gemstones, and paperboard. From the United States: aircraft parts, heavy machinery and transport equipment, steel scrap, fertilizers, scientific instruments, and chemicals.

Exports - 1988, $12.8 billion; 1987, $12.5 billion. (U.S. imports from India: 1988, $3.2 billion; 1987, $2.7 billion.) Major markets (1986): United States (18.8 percent), USSR (14.9 percent), Japan (10.7 percent), OPEC (6.2 percent), and United Kingdom (5.9 percent)

Trade Policy - Import policy has been slowly liberalized since 1978, but it is still restrictive.

Trade Prospects - Best prospects are in the areas of oil and gasfield equipment, power generation, telecommunications, process controls and instrumentation, electronic components, and edible oils.

FOREIGN INVESTMENT

The United States is the largest investor in India. Estimated book value of U.S. direct investment was $550 million at the end of 1988.

Investment Prospects - Official policy selective. Emphasis on transfer of technology and export-oriented industries. Foreign equity limited to 40 percent in most cases. Indian Government prefers technology transfer agreements to direct investment.

FINANCE

Currency - Rupee: exchange rate of US$1.00 = Rs. 16.92 (December 1989), subject to limited variations based on weighted average of several major currencies.

Domestic Credit and Investment - Well-organized capital market for underwriting and marketing securities. Short-term financing usually through commercial banks, medium- and long-term financing through development banks and specialized financial institutions. Most banking deposits under public sector control.

National Budget - Figures from Indian fiscal year 1987-88: total expenditures, $46 billion; total receipts, $51 billion.

Foreign Aid - Multilateral Disbursements : Asian Development Bank: 1987-88 $2.5 billion; World Bank: 1987-88 $1.3 billion.

Balance of Payments - Fairly serious situation stemming from rising oil prices and the need to import food grains following the disastrous drought of 1987-88. Trade deficit in 1988-89 was $7.1 billion. Debt service ratio has increased to 30 percent, but is expected to decrease over the next few years.

ECONOMY

Mixed (public and private) economy with public sector playing dominant role. Government directs economy through Five-Year Development Plans. Agricultural sector exerts predominant influence on overall level of economic activity.

GNP - 1988-89: $265.2 billion. Per capita GNP $331.

Agriculture - Main crops: food grains, oil seeds, sugarcane, cotton, jute, tea, and coffee.

Industry - Production methods range from antiquated to sophisticated technology. Major growth sectors: automobiles, iron and steel, fertilizer, petroleum, power generation, and export-oriented industries.

Prices - 1988-89: Wholesale Price Index up 7.3 percent; Consumer Price Index up 9.1 percent.

Development Plan - India's centrally planned Five-Year Plans provide broad guidelines for economic, industrial, and social objectives. The country's Eighth Five-Year Plan (1990-95) is currently in preparation.

Tourism - 1.2 million tourist arrivals in 1987 accounted for more than $1 billion in foreign exchange earnings.

BASIC ECONOMIC FACILITIES

Transportation - Railroad system is prime mover of goods and passengers. Road network and port facilities are inadequate. Domestic and international air connections are adequate.

Communications - Inadequate. Telephones average approximately 5 per 1000 people, with a waiting list of well over 1 million people. 36,000 telegraph offices and 14 television stations throughout the country.

Power - Overall power generating capacity seriously inadequate.

NATURAL RESOURCES

Land - Area: 1,269,340 square miles.

Minerals - Extensive coal and iron ore deposits. Variety of other mineral deposits not fully exploited. Active offshore petroleum exploration under way.

Forestry - 23 percent of land area is forested.

Fisheries - Growth industry; production in 1986 of 3 million metric tons (marine and inland sources).

POPULATION

Size - Approximately 830 million. Urban population about 24 percent (1981 census). Principal cities: Calcutta, Bombay, Delhi, Madras, Bangalore, Hyderabad, Ahmedabad, Kanpur, Pune, Nagpur, Lucknow, and Jaipur.

Ethnic Division - Indo-Aryan (72 percent), Dravidian (25 percent), Mongoloid (3 percent), others.

Languages - Hindi, English, 14 other official languages.

Religions - Hindu (83 percent), Muslim (11 percent), Christian (2 percent), Sikh, Jain, Buddist, Parsi.

Education - Compulsory to age 14. About 36 percent literacy rate.

Labor Force - About 330 million. 67 percent in agriculture, 10 percent in manufacturing. Unemployment is high, however, statistics are unreliable.

* U.S. Government Printing Office : 1990 - 261-942/20009